

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

OCTOBER, 1875.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1875.

CONTENTS.

	Page.
STATISTICS :	
Digest of crop-reports	414
Wheat	414
Corn	418
Rye	422
Oats	423
Barley	425
Buckwheat	425
Cotton	426
Potatoes	429
Sweet-potatoes	431
Cranberries	431
Tobacco	431
Rice	433
Sugar-cane	433
Sorghum	434
Hops	434
Hemp	434
Fattening cattle	434
Tabulated returns	436
CENTENNIAL ADDRESS	440
ENTOMOLOGY :	
Entomological record	442
Microscopy	445
EXTRACTS FROM CORRESPONDENCE	438
FACTS FROM VARIOUS SOURCES	448
MARKET-PRICES OF FARM-PRODUCTS	467
LIVE-STOCK MARKETS	469
FOREIGN MARKETS	470

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, STATISTICAL BUREAU,
Washington, D. C., October 20, 1875.

SIR: I submit herewith for publication a digest of the monthly statistical returns for October; the centennial address of the Commissioner of Agriculture; an entomological record; microscopic observations; and minor statistics.

Respectfully,

J. R. DODGE,
Statistician.

Hon. FREDERICK WATTS,
Commissioner.

DIGEST OF CROP REPORTS.

WHEAT.

The wheat-crop of the present year is a short one, and the deficiency is augmented by a marked deterioration in quality.

The little grown in New England is as small a quantity as ever, but not much reduced. The Middle States have about two-thirds of the crop of last year, though the decline is unequal, being greatest in New York and becoming less in degree with lower degrees of latitude. Virginia is the last State in this direction to show a reduction in yield; all the other Southern States have increased their production, some of them 50 to 75 per cent. None of the States east of the Mississippi, except Wisconsin, appear to have equaled the crop of last year. Minnesota is credited with an increased production, notwithstanding the ravages of grasshoppers and the losses from sprouting in the shock. The other prairie States, as far as reported, show a decrease, but the extension of area, both in reported and unreported counties, may make up in some degree this deficiency on a final canvassing for aggregate estimates. The Pacific coast crop is also short.

The average for the entire territory reported the present month is about 80 per cent. of last year's production. If this indicates the total depreciation, it amounts to nearly 62,000,000 bushels, and gives a crop of 246,000,000 bushels. But the quality is also lower than last year, and the depreciation is heaviest in what are known in a special sense as wheat-growing regions. In quality, the crop averages 84, or 14 per cent. below sound condition. This is equivalent to a further reduction of the crop, though it means poorer bread rather than less of it.

The losses by sprouting and rotting in shock or stack produced in

many places a panic, which stimulated exaggeration, and the natural result is the ultimate conclusion that "the loss is not so heavy as was expected." It is bad enough, however, when shipments of wheat from Maryland to Ohio are necessary to make a mixture that will produce a passable flour. The wheat of best quality is to be found in Delaware, Maryland, the South, the Pacific coast, and in New England. That of the West averages lower than usual in every State, and among the lowest averages are those of Indiana, West Virginia, Ohio, Kentucky, and Illinois.

The following brief extracts are appended :

MAINE.—*Piscataquis* : Reduced 25 per cent. by weevil and rust. *Androscoggin* : Very fine. *Waldo* : Injured by rust and midge. *York* : Did not meet expectations when thrashed.

NEW YORK.—*Genesee* : Nearly a failure, and the little we get poor in quality. *Ontonaga* : The yield better than was expected, and the berry fair.

PENNSYLVANIA.—*Bucks* : Yielding worse than anticipated, and the quality not No. 1. *Bedford* : The fine quality injured by growing in the shock. *McKean* : Sprouted badly. *Elk* : A much larger acreage than usual, very heavy yield, and quality superior ; by all odds the largest crop ever raised.

MARYLAND.—*Calvert* : Much badly sprouted. *Howard* : The yield, on thrashing, proves far superior to the small expectation. *Wicomico* : Excellent in quality.

VIRGINIA.—*Rockingham* : A much better yield than promised, but injured in quality by the rains. *Carroll* : A total failure. *Stafford* : An immense amount damaged by the rains, but yet the quantity is larger and the quality better than last year. *Halifax* : The quality injured by the wet weather. *King George* : About one-third of the crop lost by the excessive rains. *Prince William* : Fultz wheat ahead in yield, but Tappan-hannock in quality. Drilled wheat stood the winter best and gave the best yield. *Charles City* : Very much injured in quantity and quality by the rains. *Chesterfield* : Quality good except where injured by the rains. *Essex* : Much injured by sprouting in the shock. *Highland* : Much injured in the shock. *Culpeper* : Fully one-half damaged, and most of it lost altogether. *Madison* : Many crops badly damaged in the shock. *Westmoreland* : All not thrashed when the rains commenced, seriously damaged. *Wythe* : The crop was very fine, but could scarcely be secured, owing to wet weather, and fully one-half is not fit for bread.

NORTH CAROLINA.—*Greene* : Much more damaged than was expected when harvested. *Hertford* : The absence of our old enemy, rust, resulted in a better crop of wheat than usual. *Person* : Damaged in the stack. *Fancy* : All more or less injured in the shock.

ALABAMA.—*Randolph* : The crop more than double that of last year, and the quality superior. *Calhoun* : Much better than last year, and quality superior.

MISSISSIPPI.—Twenty bushels to one last year.

TEXAS.—*Coryell* : About 100,000 bushels of good quality raised. Price, \$1 cash per bushel. *Caldwell* : Over 20,000 bushels raised ; the largest acreage and yield since the war. *Collin* : The crop thrashed out remarkably fine. *Titus* : The acreage was much larger than in any previous year, and the quality exceeds any former crop.

ARKANSAS.—*Columbia* : At least ten times as much as usual raised. *Cross* : A larger crop than ever before known. *Stone* : Heaviest yield for many years. *Fulton* : Increased acreage and yield. *Jackson* : The first year any wheat has been shipped to market since the war. *Sharp* : Considerably damaged in the field by rains. *Marion* : Never the like produced before. *Perry* : The very high figures arise from the fact that the amount sown was extraordinary, more than double that of the previous year. *Franklin* : The product fully tenfold greater than last year and of a very good quality.

TENNESSEE.—*Lincoln* : Sixty per cent. of the crop more or less injured by rains before thrashing. *Giles* : Acreage and yield much larger than since the war, but damaged by rains. *Greene* : Extensively damaged in the shock. *Smith* : Injured in the shock. *Blount* : Damaged in the shock. *Carter* : Very badly damaged in the shock. *McMinn* : Not so badly damaged in the shock as was thought before thrashing ; grain full and plump. More wheat shipped from this county than in any one year since the war. *Dickson* : Damaged in the shock 15 to 20 per cent. *Wilson* : Product 50 per cent. greater than last year, but the quality not so good ; damaged by the rains. *Putnam* : Was a very good crop, but much sprouted in the shock. *Robertson* : Damaged 50 per cent. in the shock. The Amber, and particularly the Fultz, less damaged than the white varieties.

WEST VIRGINIA.—*Pocahontas* : Not more than one-half a crop, badly damaged. *Barbour* : Spoiled by the wet season. *Fayette* : So much sprouted in the shock that farmers find it difficult to get seed that can be relied on. *Mercer* : Lighter than expected, and

considerably damaged by rains. *Raleigh*: Injured by the wet weather. *Doddridge*: Nearly destroyed by the rains. *Wetsel*: A light crop, and much of it in a damaged condition. *Boone*: One-half or more of what was not carried away by the flood rotted in the shock.

KENTUCKY.—*Allen*: Greatly damaged in the shock. *Lincoln*: Not damaged to the extent supposed. *Spencer*: Twenty-five per cent. destroyed by the rains. *Bath*: The quantity and quality greatly reduced by the rains. *Fayette*: About two-thirds of what was harvested was lost by the rains, and the remainder greatly damaged. *Metcalf*: A good crop, more than half damaged before it could be thrashed.

OHIO.—*Medina*: Turns out much better than was expected. *Pickaway*: The quality is so bad that our millers are importing wheat from Baltimore to supply their trade. *Franklin*: Impossible to save any except the very earliest in good condition. *Noble*: One-fourth of the crop grew in the shock and washed off. *Sandusky*: Quality inferior, but much better than was expected. *Washington*: A great portion saved in poor condition. *Hancock*: Injured by the rains. *Delaware*: Injured by the wet. *Harrison*: Great damage by the wet weather. *Seneca*: Quality injured by the rains. *Athens*: Very short crop of inferior quality. *Richland*: Quality was excellent, but sprouted.

MICHIGAN.—*Grand Traverse*: Damaged fully 50 per cent. by rains in harvest. *Lapeer*: Quality excellent. *Tuscola*: Has exceeded all expectation in quantity and good in quality. A small field of Clawson wheat is reported to have yielded at the rate of 52 bushels per acre, without extra treatment. *Shiawassee*: Light and much shrunken, but harvested in good condition. *Benzie*: Considerably sprouted. *Montcalm*: Darker color than last year. *Newaygo*: Nearly all thrashed, and turns out 15 to 36 bushels per acre. *Ottawa*: The best crop in twenty years in yield and quality, yielding in some instances 30 to 35 bushels per acre, and weighing 62 pounds to the bushel. *Alpena*: Winter-wheat yielded 40 to 50 bushels per acre in fields of 10 and 12 acres. *Hamilton*: Badly damaged; will not pay expenses.

INDIANA.—*Tipton*: Scarcely fit to eat; badly eaten by the midge and chinchies before harvest, and damaged by rains after. *Carroll*: Very much injured in yield and quality by the wet weather. *Howard*: But a small portion saved in merchantable condition. *Ripley*: Very poor; damaged by the rains. *Madison*: A light crop; damaged at least one-third by the floods. *Franklin*: Only a part of a very poor crop saved, and that very much sprouted; it is unfit for flour. *Pike*: Fultz wheat sown by Mr. James Barker averaged 35½ bushels per acre, and weighed 62½ pounds to the bushel. *Gibson*: At least 22 per cent. lost or damaged by the wet weather. *Grant*: Half a crop.

ILLINOIS.—*Carroll*: Light yield and poor quality. *Pope*: Plump grain, but injured in the shock. *Mercer*: Poor in quality. *Fayette*: Four-fifths, more or less, damaged by the rains. *Shelby*: Makes but a third-rate flour. *Fulton*: Poor in quality. *Mason*: Light and poor. *Montgomery*: Badly damaged; a great deal musty. *Lee*: Average yield of 9 bushels per acre, of fair quality. *Edwards*: Not quite so badly damaged as was anticipated.

WISCONSIN.—*Waupaca*: Very good. *Juneau*: Spring wheat was badly injured by chinchies, except that sown where clover had been turned under the previous year. This is a noticeable fact. *Walworth*: Will not exceed 12 bushels per acre. *Crawford*: Turned out better than expected.

MINNESOTA.—*Chisago*: Considerably damaged by rains. *Mower*: The yield unprecedented; the damage from rains at least 10 per cent. *Redwood*: Not damaged as much as was feared; not over 10 per cent. will be classed as "rejected;" all of a plump, clear, bright berry. *Fillmore*: Reduced 15 per cent. in quantity and quality by wet weather. *Olmsted*: Injured in the shock and stack. *Rock*: Berry fine and plump. *Steele*: A deterioration of 10 per cent. from a very fine quality by the wet weather. *Stevens*: Better yield than for some years. *Dodge*: Not damaged as much as was supposed.

IOWA.—*Marion*: Quality inferior. *Hardin*: Considerably blighted and injured in shock and stack. *Harrison*: Greatly injured by blight and wet weather. *Montgomery*: Injured in the stack. *Muscatine*: Light, shrunken, and discolored. *Delaware*: Damaged in the shock and stack. *Greene*: Materially injured in shock and stack. *Howard*: No such trying time for grain in the shock ever before occurred in the county. Many are waiting for grain to freeze dry before thrashing. *Washington*: Poor in quality and damp in stack. *Des Moines*: Utterly useless for making bread. *Hancock*: Badly shrunk and bleached. *Johnson*: But little over half a crop, of poor quality. *Franklin*: Berry light; damaged by rain. *Monona*: Had 75 acres of wheat on new breaking on Missouri bottoms; but will have to buy my flour for bread. *Shelby*: All more or less damaged in the stack. *Jefferson*: The most complete failure I ever saw. *Madison*: Yield light, and quality No. 3 or "rejected." *Cerro Gordo*: Quality inferior. *Ida*: Badly damaged in the shock and stack.

MISSOURI.—*Jefferson*: Yield good, but fully one-third damaged. *Oregon*: Considerably damaged by the wet weather. *Camden*: Was a clear loss of 40 per cent. of the crops by the excessive rains, and the remainder badly damaged. *Greene*: Greatly damaged by the rains. Many persons having wheat on low grounds had not a sheaf left—all washed away. *Crawford*: Scarcely a crop in the county not more or less sprouted

Morgan: Badly damaged. *Perry*: Heavy product, but damaged one-sixth by the rains. *Iron*: All more or less damaged by wet harvest. *Ozark*: Damaged by wet. *Adair*: May be called a total failure; the little we saved not fit for flour. *Cole*: Plenty, but spoiled in the stack.

KANSAS.—*Reno*: Sown early, on deep-plowed land, has averaged as high as 47 to 55 bushels, while shallow plowing, drilled late, has run as low as 8 bushels per acre. *Labette*: Looks more favorable as we progress in thrashing. *Montgomery*: Yield increased from 300,000 bushels last year to 500,000 this year, but the quality not so good. *Cowley*: Product, 150,000 bushels, a full average of 20 bushels per acre. One of our farmers raised 6,000 bushels, averaging 25 bushels per acre.

NEBRASKA.—*Burt*: Coming out of stack in poor condition. *Merrick*: Good crop; some damaged by wet weather. *Clay*: Yield and quality better than last year, but damaged by wet. *Otoe*: Reduced in quantity and quality by the wet weather. *Knox*: The Michigan white, introduced this spring, yielded 16 bushels per acre, while the beardless, the variety commonly cultivated, yielded 10 to 12.

CALIFORNIA.—*Del Norte*: Very fine. *Contra Costa*: The yield was satisfactory and the quality good. *Placer*: Yielded much better than was anticipated before thrashing. The quality superior. *Sonoma*: Very plump and full.

CORN.

The condition of the corn crop, as reported on the 1st of October, is exceptionally high. Its average status in several of the States is above the standard of good condition; *i. e.*, in extra thrift and productive vigor. This is the case in all the Southern States except Louisiana and Texas; in all the Middle States except New York; and in Missouri and Kansas in the West. In the remaining States, with few exceptions, the averages are higher than usual of late years, after the customary ravages of insects and withering of drought. Wisconsin appears to have sustained most injury from frost. In the Ohio Valley States the extraordinary promise of September has been somewhat reduced by frost in low lands, or in the area planted late and slow in maturing. There will be a large quantity of unmerchantable corn soft and loose on the ear, and a considerable proportion of unsound fodder. The crop will be comparatively large in quantity, but poor in quality, except in the Southern and Pacific States. Some injury from frost, between September 20 and 30, resulted as far south as Tennessee in the West, and from Maine to Virginia on the Atlantic Coast. In the South, the principal losses resulted from storms. The equinoctial in Texas was very destructive in the southern part of the State. Worms caused some damage in Florida, and drought was injurious in portions of the State.

A return of quantities harvested will not be made till next month, when the comparative result will be better understood. The following extracts from correspondence are given:

MAINE.—*Piscataquis*: Full average, and 30 per cent. better than last year. *Androscoggin*: Very good. *Sagadahoc*: Considerably injured by frost. *Waldo*: A good growth, but injured by early frost. *Franklin*: Injured by the cold weather in September. *Cumberland*: Injured by frost in some places. *York*: Ten per cent. injured by the frost; ears well filled and the kernel plump.

NEW HAMPSHIRE.—*Carroll*: Large yield. *Rockingham*: Some pieces injured by frost.

VERMONT.—*Grand Isle*: Late, and not well ripened.

NEW YORK.—*Queens*: Cutting up in fine order, with a heavy crop of stalks for fodder. *Wayne*: Badly damaged by severe early frosts; the poorest crop in twenty years. *Richmond*: Splendid in yield and quality. *Genesee*: Injured by frosts. *Steuben*: Matured slowly and unevenly. *Washington*: Ripening well. *Wyoming*: Somewhat injured by frost. *Onondaga*: A light crop; the frosts too early for late corn. *Delaware*: Favorable weather for ripening.

NEW JERSEY.—*Camden*: Much damaged by frost. *Gloucester*: Very backward, but now ripening rapidly and almost out of danger.

PENNSYLVANIA.—*Bucks*: Bids fair for a fine crop. *Clearfield*: Very materially reduced in quality, though not in quantity. *Bedford*: Good growth, but late. *Delaware*: Seldom better. *Armstrong*: Late corn damaged by frost, September 24. *Indi-*

ana: The largest crop ever raised; all in the shock. *Lawrence*: Will be considerable soft corn, owing to frost. *Elk*: A very heavy growth; all injured more or less by frost. *Franklin*: Yield large, and the quality good as can be.

DELAWARE.—*Kent*: Fine yield.

MARYLAND.—*Worcester*: The largest crop for ten years. *Washington*: Never better. *Harford*: The finest crop for years. *Howard*: One of the best crops ever raised. *Wicomico*: Much above average. *Baltimore*: The best crop for many years. *Cecil*: Never better.

VIRGINIA.—*Pulaski*: Maturing well. *Rockingham*: Extra good, and being shocked in fine condition. *Campbell*: Excellent crop. *Rappahannock*: Very good. *Warwick*: The crop now matured is the largest for ten years. *Carroll*: Never better. *Stafford*: The crop very large. *Halifax*: Matured; the largest crop for several years. *King George*: The best crop for years, with promise of superior quality. *Orange*: Magnificent crop. *Charles City*: Not as good as was supposed. *Floyd*: Injured by early frost. *Matthews*: The yield above average, but the condition below; a great deal of rotten corn, owing to the excessive rains. *Spotsylvania*: The largest crop since the war. *Chesterfield*: More forward than formerly. *Essex*: The best crop for many years; quality excellent. *Greenville*: Some late fields have suffered from frost. *Goochland*: Prospect for a large crop. *Highland*: Better than in former years. *Page*: Favorable weather for maturing. *Accomac*: A larger crop than for ten years. *King and Queen*: Very fine crop. *Madison*: Very fine, but ten days late. *Elizabeth City*: The yield better than for many years; the quality medium. *Mecklenburgh*: Unusually good on high lands; on low, moderate. *Wythe*: The crop far above average. *Fluvanna*: Unusually well made.

NORTH CAROLINA.—*Forsyth*: Very fine; worth 50 cents per bushel. *Gaston*: Good on upland and exceedingly good on well-drained low grounds. *Pasquotank*: Very much injured by the excessive rain, yet average. *Tyrrell*: The heaviest and best crop for years; the ears filled to the utmost. *Chowan*: The best crop for years. *Franklin*: Unusually good. *Wilson*: Improved in September. *Hertford*: The best crop since 1860. *Pamlico*: Most excellent. *Person*: Very fine; on uplands the heaviest yield ever known. *Union*: Promise of the largest crop in twenty years. *Camden*: Not as good as August promised. *Auson*: Cut off on the bottoms by alternate rains and droughts. *Caldwell*: The rains have delayed the ripening of much of it, and the crop is yet uncertain. *Duplin*: Will not make more than half a crop on sandy land; better on stiff land.

SOUTH CAROLINA.—*Beaufort*: Cut off one-half by continuous drought. *Clarendon*: Inferior in quality; not well matured. *Colleton*: That planted in March turning out finely, but that planted later almost a failure, owing to the drought. *Newberry*: The yield light on uplands. *Lexington*: Late, injured by drought in September. *Marlborough*: Never better. *Orangeburgh*: The quality 100, but the yield only 70.

GEORGIA.—*Harris*: Short on upland; good on bottoms. *Muscogee*: Rains came too late for the crop. *Douglas*: Most farmers will make enough to do them another year without buying. *Towns*: Better than for several years, and mostly out of danger. *Walker*: An abundant crop. *Cobb*: Injured in low lands by overflow. *Decatur*: Very short crop.

FLORIDA.—*Jackson*: Recovered considerably after the rains, and heavier than anticipated. *Columbia*: Much injured by the drought. *Gadsden*: The crop will be ample for home consumption. *La Fayette*: Late corn badly injured by drought and worms.

ALABAMA.—*Montgomery*: Pretty satisfactory. *Lawrence*: Very good, and abundant. *Calhoun*: Fully matured, and 10 per cent. more than last year. *Dallas*: Good. *Jackson*: A great deal blown down and will rot. *Colbert*: Never finer or more abundant.

MISSISSIPPI.—*Wayne*: A good crop is made. *Cherokee*: The product over 100 per cent. greater than last year; the best crop ever grown. *Franklin*: Much better than for years; most of it housed in good condition. *Winslow*: Will be 25 per cent. more than last year. *Holmes*: Light; the summer rains too late. *Jefferson*: Good; not yet harvested.

LOUISIANA.—*Franklin*: Seriously damaged by a storm of rain on the 17th and 18th. *La Fayette*: Considerably damaged by wind and rains. *Carroll*: A plenty for home consumption.

TEXAS.—*Coryell*: A crop of good average quality, all safely gathered. *Dallas*: Crop short, but sufficient for local demands; price 50 cents. *Washington*: Much injured by the equinoctial storm. *Burnet*: Nearly all gathered; yield 15 bushels per acre. *Hunt*: Cut short by drought, grasshoppers, and chinchies. *Polk*: More or less injured by a storm of rain and wind, which lasted thirty-six hours. *Madison*: All matured, and nearly all gathered in good condition. *Rusk*: Being gathered; the yield light. *Williamson*: Quality good; product 15 to 40 bushels per acre, according to cultivation; average 22. *Cooke*: Fine; now being cribbed. *Lamar*: More raised than ever before. *Upshur*: Much damaged by smut. *Bosque*: Cut short by drought; great complaint of smut. *De Witt*: The quality for a crop injured by drought better than usual. *Mata-gorda*: Reduced to 25 by the late destructive gales.

ARKANSAS.—*Calhoun*: Gathered, and the best crop ever raised in the State. *Arkan-*

sas: First rate all through the county. *Columbia*: Being housed; the quality better than usual, and the quantity 50 per cent. greater than last year. *Stone*: Heavy crop. *Prairie*: Shortened by the early drought, but we will have enough and to spare. *Fulton*: One of the best crops ever raised. *Jackson*: The best crop we ever had. *Izard*: The best crop ever made. *Marion*: Have raised more than for the last three years put together. In Marion, Boone, Carroll, and Baxter Counties thousands of bushels offering for sale at 25 cents, and no sale. *Sevier*: Finely matured, and fine weather for gathering.

TENNESSEE.—*Grundy*: Some injury from frost. *Lawrence*: The best crop since the war. *Greene*: Injured by drought. *Smith*: The amount above average and the quality most excellent. *Blount*: Good. *Bradley*: Exceedingly abundant. *McMinn*: Well filled and heavy. *Fayette*: Beyond peradventure a large crop; selling at 40 to 50 cents; the general price at this season, for five years past, 90 cents to \$1. *Henry*: Matured and the heaviest yield ever produced in the county. *Putnam*: An abundant crop of fair quality. *De Kalb*: A huge crop. *Macon*: Has come out greatly. *Robertson*: The early planted and well tended fine, but the late planted, a large portion of the crop, not so good. *Lauderdale*: On bottoms only about one-fifth of the crop saved from destruction by overflow.

WEST VIRGINIA.—*Grant*: Late and much of it yet green. *Marion*: Late; first planting destroyed by cut-worms. *Fayette*: Reduced by the wet weather and want of culture. *Mercer*: Not quite average with last year; some damaged by frost. *Putnam*: Early planted, very fine; late, indifferent. *Hancock*: Above average in quantity, but injured by frost. *Ritchie*: Much later than usual in ripening, and somewhat injured by frost. *Branton*: Very promising. *Brooke*: Promised to be the largest ever grown here, prior to September 19th, but from the 19th to the 25th sharp frosts killed the blades and stopped the maturing, a large part being still in the milk. *Jefferson*: Reduced in yield 3 or 4 per cent. by chinchies. *Welzel*: Some damage from frost.

KENTUCKY.—*Lincoln*: Very promising and advanced beyond injury by frost. *Warren*: Decidedly the finest crop ever produced. *Jefferson*: The season very favorable. *Carroll*: While the condition is 100 the product will not be above 90, owing to loss by overflow. *Owsley*: Will not be half a crop owing to want of working, weeds, and high waters, occasioned by the rains. *Graves*: Unprecedentedly fine; excellent in quality and 25 per cent. above average in quantity.

OHIO.—*Pickaway*: A heavy crop, except on low, flat ground, where it is a failure. *Miami*: The largest crop ever produced in the county. *Preble*: The acreage 20 per cent. greater than last year, but the condition not above 80, owing to the wet weather and severe frosts. *Fulton*: Has matured very finely. *Franklin*: A heavy crop on high lands; ruined by rain along the streams. *Montgomery*: The only remunerative crop. *Williams*: A great deal of soft corn caught by frosts. *Guernsey*: Late corn considerably injured by two severe frosts. *Lucas*: Some injured by frost on the 21st. *Noble*: Late corn injured by frost. *Sandusky*: Above average in quantity and in good condition. *Adams*: An abundant crop. *Hancock*: About one-half the crop in good condition, the remainder frost-bitten before ripe. *Morgan*: Heavy frosts on the 23d and 24th killed all that had not been cut. *Perry*: Late corn injured very much by frosts on the 23d and 24th. *Delaware*: Yield enormous, never greater, and quality good. *Harrison*: Very heavy. *Mahoning*: Mostly killed by frost two weeks ago; will be much unsound corn. *Seneca*: On clay-soils injured very much by frosts. *Athens*: On low lands destroyed by floods, yet about an average; some late frosted.

MICHIGAN.—*Kalamazoo*: Injured by a heavy frost September 18. *Grand Traverse*: Back from the bay, injured by frosts. *Lapeer*: Very heavy. *Wexford*: All killed, only in the milk, September 23, by frost. *Tuscola*: Badly damaged by frost. *Calhoun*: Backward, and nipped by the frost. *Gratiot*: Cut short by frost. *Hillsdale*: Ten days late, and the fodder injured by frosts very much. *Manistee*: Seriously damaged by frosts in September. *Monroe*: The best crop ever raised. *Oceana*: Great damage from a heavy frost. *Barry*: Hurt by frost September 20. *Delta*: Damaged very badly by early frosts. *Saginaw*: Cannot tell the effects of frost on its ripening in the shock. *Shiawassee*: Damaged by drought and by frost. *Benzie*: Injured by frosts. *Newaygo*: The fodder nearly ruined by frosts, and not more than 25 or 30 per cent. of the corn will be merchantable. *Ottawa*: Suffered from frosts. *Charlevoix*: In some parts injured by a sharp frost the first week in September. *Livingston*: Heavy, but damaged by early frost. *Mason*: All killed by frost. *Saint Joseph*: Reduced 15 to 25 per cent. by early frost. *Wayne*: Never better, but somewhat injured by frost. *Oakland*: A larger acreage than ever before, and would have been very heavy had it not been retarded by cold in September.

INDIANA.—*Tipton*: Badly bitten by frosts; prospect that there will be no solid corn in the county. *Carroll*: Frost-bitten; much will be of very inferior quality. *Howard*: Late corn, being 25 per cent. of the crop, severely injured by heavy frosts September 20 and 21. *Ripley*: Good, and now out of the way of frost. *Madison*: Average on high lands; very poor on low. *Noble*: Good, and generally matured. *Franklin*: A heavy growth; kept green until the frosts, from the 20th to the 30th; not thought

to be much injured. *Tippecanoe*: Much late corn injured by frosts. *Marion*: A very light crop, unusually late, and the fodder killed by frosts. *Union*: Damaged by storms blowing it down, and by frosts. *Wabash*: Damaged by frost about 10 per cent. *Gibson*: Good where not drowned by the wet. *Grant*: About half a crop. *Steuben*: A great quantity of soft corn. *Switzerland*: The largest crop ever produced, and the quality unsurpassed. *Perry*: Good. *Hamilton*: Considerably short, and much injured by heavy frosts ten days ago.

ILLINOIS. *Hancock*: The largest crop ever raised, and out of danger from frost. *Pike*: Very good, but late. *Carroll*: Cut off at least 30 per cent. by premature frosts. *Pope*: Injured by rains in the summer and by dry weather in September. *Clark*: Heavy losses on the bottoms by the floods, but fully compensated by the superior growth on the high lands. *Mercer*: Late, damaged by frosts, but the crop is large and the quality generally good. *Stephenson*: Frosts in August ruined much. *Bureau*: A very heavy crop. *Cook*: An extra crop, well ripened. *De Kalb*: Owing to frosts there must be enough soft corn to sink the average down to 100. *Fayette*: Good on high lands, not injured by frosts. *Grundy*: Will average 50 bushels per acre, all sound. *Shelby*: Drying off finely and bids fair for a larger yield than generally expected. *Vermillion*: Nearly all ripened and will be A No. 1. *Fulton*: The finest crop since 1860. *Logan*: Heavy crop, but somewhat injured by frosts and will be chaffy. *Mason*: Good but considerably frosted on low lands. *Montgomery*: Fine, though drowned out in some parts. *Ogle*: Injured by frosts. *Lee*: Will not average half a crop of good sound corn. *De Witt*: As fine a prospect as was ever seen until frost entirely killed the stalks; nearly all will be loose on the ear and much too soft for market. *Massac*: Injured by dry weather. *Sangamon*: Cut by frost.

WISCONSIN.—*Crawford*: In low and narrow valleys a total failure, but average in some places. *Greene*: More damage by the frost in August than at first supposed; corn thought good for half a crop proves to be less than one-third. *Waupaca*: Very few fields came to maturity. *Juneau*: Only 75 per cent. of a crop, owing to frost in August. *Ozaukee*: Killed by the early frosts. *Pepin*: Not so much injured by frost as was expected. *Richland*: Cut short by frosts. *Milwaukee*: Frosts about the 20th of September made sad havoc with corn. *Walworth*: A failure in many parts; some farmers will not have a bushel of sound corn. *Brown*: Affected by frosts. *Adams*: Frost in August destroyed nearly 25 per cent. of the entire crop—killed it outright; the remainder generally unripe. *Outagamie*: Injured very much by heavy frost August 21. *Pierce*: Considerable soft corn. *Vernon*: Almost a failure; all in the valleys killed by frost in August. *Saint Croix*: Shortened by frost; inferior in quality.

MINNESOTA.—*Goodhue*: Caught by a severe frost. *Mower*: Killed by frost on the 22d. *Redwood*: No better crop ever raised and now out of danger. *Fond du Lac*: Early frosts have left much soft corn. *Portage*: In some fields, totally destroyed by frosts; in others, uninjured. *Fillmore*: Nearly ruined by frosts on the low lands. *Olmsstead*: Damaged by frost. *Winona*: Late twenty days; killed by frost in some places. *Wright*: In some localities destroyed by a heavy frost August 21. *Steele*: Ripened in average condition, with good yield and largely increased acreage. *Mille-Lacs*: Suffered considerably from frost.

IOWA.—*Story*: Damaged by frost 10 per cent. *Marion*: Good on dry ground; poor on wet. *Poweshiek*: Badly damaged by frost September 20. *Allamakee*: Much damaged by frost. *Clinton*: Very heavy, but all injured more or less by killing frost September 17 and 20. *Hardin*: Much of the crop will be light and chaffy. *Harrison*: Short; injured by the grasshoppers and excessive wet. *Lee*: Now out of danger, and will turn out far better than indicated by my last report. *Mahaska*: Quite backward. *Montgomery*: Well matured before frost. *Delaware*: Injured by frost. *Guthrie*: Late, and some damaged by frost. *Decatur*: Badly cut by frost. *Washington*: A part of the crop splendid; that replanted injured by frosts. *Des Moines*: Killed by frost ten days ago. Will have a large amount of soft corn. *Hancock*: Frost has damaged most of the corn. *Johnson*: Good. *Franklin*: Killed by frost before ripe. *Shelby*: Cut by frosts on some bottom-lands. *Madison*: Light, owing to frost. *Cerro Gordo*: Has regained some of its lost time and bids fair for almost average. *Ida*: On low ground, loose on the cob. *Iowa*: Injured by frost. *Tama*: One-third of the crop damaged by frost 10 to 20 per cent.

MISSOURI.—*Barton*: Enormous crop. Have a field of 300 acres that will average fully 60 bushels per acre. *Camden*: Being gathered in good condition. Many fields, with stalks averaging 15 feet in height, will husk out 100 bushels of fine sound corn to the acre. *Nodaway*: Fully 89 per cent. of the first planting was eaten by grasshoppers. The replanted promised more than a full crop, but frosts in September injured it fully 40 per cent. *Crawford*: Very good. *Perry*: Very good, but some injured by drought since the 1st of August. *Platte*: Will have a large surplus if not injured by frost. *Clay*: The first planting destroyed by grasshoppers, and the second by rains; the third is as fine as ever seen and maturing well. *Iron*: Extra good. *Moniteau*: Enormous crop. *Ozark*: Better than for years; some fields yield 75 bushels per acre. *Pettis*:

A splendid crop; better than for six years. *Cole*: Has ripened splendidly; it sells already at \$1 per barrel, equal to five bushels.

KANSAS.—*Ellsworth*: Better than ever before. *Franklin*: The grasshopper corn is almost safe from the frost; the worm is working in it, and will injure it considerably. *Douglas*: No frost to hurt our late-planted corn, and the prospect is that it will ripen well. *Nemaha*: Immense crop. *Ellis*: Very heavy crop. *Woodson*: A vast surplus, and no outside demand. *Jackson*: The prospect for a heavy crop never better. *Leavenworth*: Planted in July, and tens of thousands of bushels are out of the way of frost. *Barton*: Materially affected by a worm, resembling the cut-worm, which works in the point of the ear while the corn is soft. They have damaged the product 25 to 30 per cent. *Brown*: The first planted, left by the grasshoppers, is excellent, and the late is coming out very fair. *Cloud*: Ripening all right. *Linn*: Late planted generally, though not all, out of the way of frost; cut a little by it in low places on the morning of October 1. *Osage*: The finest crop I ever saw; much of it will average 75 bushels per acre; all sound and good. *Cherokee*: Splendid; early corn now fit to gather. *Labette*: Beyond all expectations. *Lyon*: Very abundant and cheap. *Montgomery*: Unusually large crop. *Cowley*: The best crop I have seen in this part of Kansas. *Allen*: Very favorable weather for maturing our late corn. *Graham*: Ripened well. *Shawnee*: Best crop for three years.

NEBRASKA.—A good crop, making an average of 60 bushels per acre. *Pawnee*: Damaged by frost September 20 to 22. *Boone*: Frosted September 16. *Johnson*: Ninetenths safe, and the yield never better. *Burt*: Looks well, and is about out of danger. *Merrick*: Good. *Clay*: Good; will average about 40 bushels per acre. *Otoe*: The wet season has promoted wonderfully the growth of the corn planted after the grasshoppers left, yet much of it is likely to fail of ripening. *Richardson*: Looks splendid; that planted in July, after the grasshoppers left, now looks promising; the county will have a larger crop than ever before.

RYE.

The crop of 1874 was about an average one. The product reported this year falls short of that about 4 per cent. The crop is fully equal to last year's, in both yield and quality, in New England, and does not vary much from it in the South Atlantic and Gulf States, taken as a whole. Among them, the greatest decrease in product is in Georgia, 8 per cent., and the greatest increase 30 per cent., and 8 per cent. in quality, in Texas, which reported last year 13 bushels as the average yield per acre, and in Mississippi 9 per cent., and 3 per cent. in quality, on a yield of 9.4 bushels per acre. Arkansas, yielding last year 12.7 bushels per acre, reports an increase of 55 per cent. in product. The production of rye is not extensive in any of these States. In the States which grow it on a larger scale, the figures for comparative product and quality are, respectively, New York, 81 and 98; New Jersey, 79 and 97; Pennsylvania, 93 and 98; Maryland, 97 and 96; Virginia, 100 and 95; Kentucky, 88 and 84; Ohio, 71 and 79; Wisconsin, 129 and 105. Among the remaining States the product, compared with last year, is greater in Tennessee by 1 per cent., and in Kansas by 5 per cent., while in Nebraska it is less by 40 per cent. In others it ranges from 77 in Indiana up to 100 in Delaware, South Carolina, Florida, and Oregon. Between the Alleghanies and the Missouri the crop was considerably reduced in product, and largely in quality, by being overtaken by the extraordinary rains before it was garnered.

Among the foot-notes upon rye the following are selected:

MAINE.—*Androscoggin*: Very fine.

PENNSYLVANIA.—*Bedford*: Better crop than for several years.

MARYLAND.—*Howard*: Good, but somewhat damaged in the shock.

VIRGINIA.—*Carroll*: A total failure. *Madison*: Good. *Fauquier*: Almost a failure.

NORTH CAROLINA.—*Greene*: More damage than was expected when harvested.

GEORGIA.—*Towns*: Better than average.

ARKANSAS.—*Arkansas*: Splendid.

TENNESSEE.—*Giles*: Acreage and yield much larger than since the war, but damaged in quality by rains.

WEST VIRGINIA.—*Mercer*: Superior to the wheat crop, and not much damaged by the rains. *Doddridge*: Nearly destroyed by the rains.

KENTUCKY.—*Spencer*: Twenty per cent. destroyed by the rains.

OATS.

Returns make the entire product 5 per cent. greater than last year. Between the thirty-fourth and the forty-first parallels, as previously reported, an unprecedented crop, as reported July 1, was very largely diminished in the product saved, and universally damaged in quality by the long-continued and flooding rains. Early drought pinched the crop in Delaware, Maryland, and parts of Virginia, and ravages of the army-worm, extensive in Ohio, had some effect in adjoining States also in diminishing the product gathered. Yet in that section, as a whole, the vast quantities destroyed scarcely reduced the product below that of the previous year. The comparative figures are: Delaware, 63; Maryland, 91; Virginia, 81; North Carolina, 101; West Virginia, 94; Ohio, 100; Kentucky, 98; Tennessee, 102; Indiana, 77; Illinois, 106; Iowa, 107; Missouri, 109; Kansas, 84; Nebraska, 73. In all these States the quality is below that of last year, averaging about 88. Outside the rainy section, with few exceptions, superior crops in quantity and quality have been produced. The New England States return a quality averaging about 2 per cent. above, and an increase of about 7 per cent. in product, except in Rhode Island, where, owing chiefly to extraordinary havoc by the army-worm, it was reduced to 18 per cent. below. In five States which produce about two-thirds of the entire crop the figures representing the comparative product and quality are: New York, 106 and 96; Pennsylvania, 110 and 98; Ohio, 100 and 83; Illinois, 106 and 84; Wisconsin, 133 and 102. Michigan reports for average product, 121; quality, 105; Calhoun County reports that a yield of 60 bushels per acre is common; Mecosta, that a field of 10 acres yielded 84 bushels per acre; Alpena, that the crop will weigh 35 to 50 pounds per bushel; and Wayne, that it was never better. The averages in Minnesota are 101 for product and 97 for quality. The latter was injured in some localities by rains in harvest. On the Pacific Coast the crop about equals the preceding one in both yield and quality. In the South Atlantic and Gulf States the product equals last year's in Georgia; is less 9 per cent. in Florida, and 4 per cent. in Alabama, but is much greater in the remaining States; South Carolina, 20 per cent; Mississippi, 28; Louisiana, 6; Texas, 44; Arkansas, 74. The reported yield per acre last year in Texas was 27.2 bushels; in Arkansas, 15. In Texas, Titus reports that the crop exceeds all previous ones in acreage and quality; also that the Red Rust-proof is coming into general use, and giving universal satisfaction. Williamson reports an acreage fivefold greater than ever before, producing the same variety, which weighs 35 to 38 pounds per bushel. But Uvalde reports that the White Schonen is taking the lead of all other kinds. The quality throughout the State averages about 7 per cent. better than last year. In Arkansas, where the improvement in quality is 9 per cent., Fulton, Marion, and Baxter return better crops than were ever before produced. In Baxter, our reporter states that from the product of 65 dozen large plump grains of Norway oats he thrashed out 65 bushels; that is an average of $2\frac{2}{3}$ quarts per single grain. Extracts are made as follows:

MAINE.—*Androscoggin*: Good. *Waldo*: First rate yield; quality excellent.

VERMONT.—*Rutland*: A good crop. *Orleans*: Rusted, and are light in weight.

NEW YORK.—*Genesee*: Yield well, and of fair quality. *Sullivan*: Product light, but good quality. *Onondaga*: Very good in yield and quality.

PENNSYLVANIA.—*Bucks*: Much of the crop blackened by the rains in harvest. *Mifflin*: Four times the product of last year, and much better in quality. *Sullivan*: The best crop for many years. *Elk*: Weighed last year 28 pounds per bushel; this year 35. *Northumberland*: An extra large crop, but much injured by the rains.

DELAWARE.—*Kent*: Injured by drought in June.

VIRGINIA.—*Campbell*: Much injured by the rains. *Halifax*: Rusted, and the grain small and light. *Pittsylvania*: Increased in quantity, but inferior in quality. *Chesterfield*: Quality bad, owing to the wet weather. *Essex*: A failure, owing to a dry spring. *Madison*: Poor and light. *Wythe*: The crop was abundant, but most of it bad in quality from the wet weather. *Fauquier*: Almost a failure.

NORTH CAROLINA.—*Hertford*: Almost destroyed by drought. *Person*: Badly damaged in the stack by rains.

GEORGIA.—*Towns*: Better than average.

ALABAMA.—*Calhoun*: Badly injured by drought.

MISSISSIPPI.—*Wayne*: Suffered a little from rust.

TEXAS.—*Titus*: The acreage and quality exceed those of any former year; the Red Rust-proof coming into general use and giving universal satisfaction. *Uvalde*: The White Schonen very fine; taking the lead of all other kinds. *Williamson*: Acreage nearly 400 per cent. greater than ever before; product per acre about the same as last year; weight 35 to 38 pounds per bushel; price 45 cents per bushel of 32 pounds; kind, Rust-proof.

ARKANSAS.—*Arkansas*: Splendid. *Stone*: Heavier than for five years. *Fulton*: The best crop ever raised. *Baxter*: The greatest yield ever known. I thrashed 65 bushels of Norway oats, the yield of 65 dozen large, plump grains. *Marion*: Never the like produced before.

TENNESSEE.—*Greene*: Badly injured before and after cutting. *Blount*: Seriously damaged by the rains. *Carter*: Very badly damaged in the shock. *Dickson*: Damaged in the shock 15 to 20 per cent.

WEST VIRGINIA.—*Pocahontas*: Good in quantity, but light and chaffy. *Fayette*: Good yield, and not much injured by the wet weather. *Mercer*: Early sown not well filled; late sown, better. *Putnam*: So small a portion of the crop saved from ruin by wet weather, about the time of harvest, that I cannot report the quantity. *Doddridge*: Nearly destroyed by the rains. *Wetzel*: Badly damaged before they could be cut, and in some fields a worm stripped the stalks of grain.

KENTUCKY.—*Allen*: Greatly damaged in the shock. *Lincoln*: Grain plump and fine, but one-half lost by the rains and the remainder saved in a damaged condition. *Ohio*: Very promising up to harvesting, but totally lost by excessive rains. *Spencer*: Destroyed by the rains to the extent of 75 per cent. *Bath*: The quantity and quality greatly reduced by the rains. *Fayette*: The crop injured at least 30 per cent. by the rains.

OHIO.—*Medina*: Never such a yield before in the history of our county. *Preble*: The wet weather and the army-worm caused great destruction. *Franklin*: A heavy crop badly used up. *Williams*: A great part of the crop lost. *Sandusky*: The crop much injured by the army-worm, but better than last year. *Washington*: A great portion saved in poor condition. *Hancock*: Fully one-half of the very large crop destroyed by the army-worm. *Delaware*: An enormous growth, but the wet caused them to lodge and rot on the ground. *Harrison*: Damaged by the wet weather and by grasshoppers. *Seneca*: Injured by the army-worm. *Athens*: A good crop ruined by a wet harvest.

MICHIGAN.—*Tuscola*: Unusually good. *Calhoun*: Sixty bushels per acre not an unusual yield. *Mecosta*: One field of ten acres yielded 84 bushels per acre. *Ottawa*: Very good. *Mason*: Very poor. *Wayne*: Never better. *Alpena*: Clean, and will weigh 35 to 50 pounds per bushel by the field. *Oakland*: Good crop, and the grain heavy.

INDIANA.—*Carroll*: Very much injured in yield and quality by the wet weather. *Ripley*: Very poor, owing to the rains. *Franklin*: The heavy rains and the army-worm destroyed about the entire crop. *Gibson*: Nearly all lost by rains. *Grant*: Few saved. *Hamilton*: Not over 30 per cent. of a large crop saved, and that in poor condition.

ILLINOIS.—*Pike*: A large yield, but poor in quality. *Carroll*: Good, both in yield and quality. *Pope*: Good crop, but damaged by the rains before it could be housed. *Clark*: The crop was very large, but less than an average quantity saved, and that in a bleached, damaged state. *Cook*: A splendid crop. *Logan*: Nearly all lost; grain badly bleached. *Mason*: Good in yield, but not in quality. *Montgomery*: But little of the crop could be saved, even by mowing. *Lee*: Average yield about 45 bushels. *White*: Rotted in the field. *Edwards*: Fully half the crop lost.

WISCONSIN.—*Juneau*: The largest crop for ten years. *Walworth*: Exceeds any recent crop in quantity and quality.

MINNESOTA.—*Chisago*: Considerably damaged by rains. *Mower*: The best crop ever raised, and not damaged.

IOWA.—*Marion*: Light in weight. *Hardin*: Remarkably heavy, but injured in the shock and stack. *Harrison*: The product much greater than last year, but the quality hardly equal. *Franklin*: Badly sprouted. *Jefferson*: Damaged by lodging and heavy rains; thousands of bushels destroyed in the stack. *Ida*: Badly damaged in the shock and stack.

MISSOURI.—*Barton*: Far beyond anything I ever saw; not unusual to thrash out 75 bushels per acre. *Crawford*: Very badly injured in the shock. *Morgan*: Badly

damaged. *Perry*: Heavy crop; badly rotted by the rains. *Adair*: Mostly damaged in the stack.

KANSAS.—*Cherokee*: A fine crop, but injured by the wet weather. *Labette*: Such a yield never known before; the true figures should be 200, instead of 180. *Montgomery*: Very heavy crop. *Cowley*: A good crop, yielding 50 bushels per acre.

BARLEY.

The product of barley returned is 87 per cent. of last year's crop. About an equal reduction in quality is indicated. Except in Rhode Island, 77 and 93, Delaware, 65 and 87, and California, 79 and 98, the falling off in both quantity and quality is almost exclusively within the area of excessive rains. The States in which the crop suffered most are Indiana, 47 and 64; Nebraska, owing in part to grasshoppers, 53 and 82; Ohio, 63 and 78; West Virginia, 77 and 84; Kansas, 78 and 99. The New England, Middle, Northwestern, and the Southern States which grow barley, produced a superior crop in yield and of nearly average quality. The product exceeds that of last year in New York, Kentucky, and Wisconsin, 6 per cent.; Connecticut and Pennsylvania, 2; Florida, 25; Texas, 8; Arkansas, 81; Michigan, 10. The product and quality are below last year's in Illinois, 5 and 20 per cent.; Iowa, 20 and 19; Missouri, 8 and 18; Minnesota averages 96 and 102; Oregon, 99 and 100.

MAINE.—*Androscoggin*: Good.

NEW YORK.—*Genesee*: Yields well and of fair quality. *Onondaga*: A fine crop; some fields yield 40 bushels and over per acre. Good breadth planted, but rather light yield.

TEXAS.—*Williamson*: Yield, 35 bushels per acre.

MICHIGAN.—*Calhoun*: Thirty to forty bushels per acre very common. *Oakland*: Good yield and heavy grain.

ILLINOIS.—*Carroll*: Poor in quality.

WISCONSIN.—*Walworth*: In both quantity and quality exceeds any recent crop.

MINNESOTA.—*Mower*: Good; less sown than formerly. *Noble*: Our first crop; a fine one. *Fillmore*: Secured before the rains in good order.

IOWA.—*Marion*: Much injured in the shock. *Muscatine*: The berry is good. *Greene*: Materially injured in the shock and stack.

MISSOURI.—*Perry*: Injured by the rains.

NEBRASKA.—*York*: Three times the area of any previous year, and a fine crop, except that it was colored before harvesting.

CALIFORNIA.—*Del Norte*: Very fine. *Placer*: Quality much better than quantity; injured by the north winds.

BUCKWHEAT.

The condition of the entire crop is not far from average. In the five States which produce above four-fifths of it the average is, New York, 94; New Jersey, 99; Pennsylvania, 103; Virginia, 106; Ohio, 96. In Pennsylvania, Beaver reports the best crop for several years; Indiana the best for ten years; and Elk the best since 1859. In New England the general condition is slightly above average. In Massachusetts, in which 25 per cent. increase of acreage was reported, the condition is 110; Missouri, with an increase in area of 20 per cent., and Kansas of 23 per cent., are both 4 per cent. above in condition; and Nebraska, with an increase of 28 per cent. in area, is 3 per cent. above. Early and later frosts have damaged the condition extensively in the Northwest, especially in Wisconsin, and slightly in other localities.

VERMONT.—*Grand Isle*: A very large growth; some injured by frost.

MASSACHUSETTS.—*Berkshire*: Failed to fill.

NEW YORK.—*Steuben*: Matures slowly and unevenly. *Delaware*: Favorable weather for ripening.

PENNSYLVANIA.—*Bedford*: Good growth but late. *Armstrong*: Damaged by frost. *Beaver*: The best crop grown for several years. *Indiana*: The best crop for 10 years; got up in good condition, and about all thrashed. *Elk*: The best crop since 1859.

MARYLAND.—*Howard*: If the frosts hold off a few days will be a heavy crop.

NORTH CAROLINA.—*Mitchell*: Silver-hull excellent.

WEST VIRGINIA.—*Pocahontas*: Fine prospect. *Mercer*: Very good; Silver-hull the favorite. *Raleigh*: Turning out finely. *Doddridge*: Injured by frost in some places.

OHIO.—*Washington*: Injured by dry weather and by frost.

MICHIGAN.—*Grand Traverse*: Back from the bay, injured by frosts. *Wexford*: All killed by frost September 23. *Tuscola*: Nearly ruined by frost. *Calhoun*: A very large crop. *Manistee*: Seriously damaged by frosts. *Oceana*: Reduced fully 25 per cent. by frosts. *Barry*: Cut short by frost. *Emmett*: Injured by frost. *Shiawassee*: Mostly escaped the frost. *Ottawa*: Suffered from frosts. *Mason*: All killed by frost. *Wayne*: Injured by frosts.

INDIANA.—*Shelby*: Somewhat injured by frosts.

ILLINOIS.—*Stephenson*: Nearly all ruined by frosts in August. *Ogle*: Injured by frosts; but little grown. *White*: Has a good growth, but is not likely to escape the frost.

WISCONSIN.—*Waupaca*: Frost destroyed all; not a vestige left. *Richland*: Cut short by frosts. *Milwaukee*: Frosts have made sad havoc with the crop. *Walworth*: Ruined by frost. *Fond du Lac*: One-half destroyed by frosts. *Portage*: Some fields totally destroyed by frosts; others uninjured. *Green*: One-third of a crop; frost.

MINNESOTA.—*Mille Lacs*: Entirely killed by frost August 22. *Mower*: Killed by frost. *Olsted*: Damaged by frost.

IOWA.—*Allamakee*: Much damaged by frost. *Hardin*: Good. *Des Moines*: Killed by frost ten days ago.

MISSOURI.—*Camden*: Being gathered in good condition.

KANSAS.—*Osage*: A large amount sown and the product full and good.

NEBRASKA.—*Richardson*: Looks splendid.

COTTON.

An improvement in the condition of cotton during the past month is indicated in Alabama, Louisiana, and Arkansas. The depreciation in Mississippi is slight, from 98 to 96, occasioned by storms. The destructive equinoctial storm wasted and stained much fiber in Southern Texas, reducing the State percentage of condition from 94 to 88. In North Carolina and Tennessee, September was cold and the harvest is late, with less favorable prospects of a top crop. A reduction of the percentage of Georgia from 76 to 71 is caused by storms and the increasing prevalence of rust. South Carolina is 3 per cent. lower from similar conditions. In several counties of Florida the caterpillar has been injurious.

Taking a survey of the whole field, the reduction of condition since the September returns is an undoubted fact, though the depreciation is slight. The harvest has been retarded in the Mississippi Valley by an unusual amount of sickness among the laborers. In the State of Mississippi there has been some loss of time on account of political disturbances.

As compared with the October returns of last year, crop prospects are worse in South Carolina, Georgia, and Florida, but decidedly better in all the States from Alabama westward.

The percentages of condition are as follows: North Carolina, 85; South Carolina, 77; Florida, 70; Georgia, 71; Alabama, 94; Mississippi, 96; Louisiana, 90; Texas, 88; Arkansas, 103; Tennessee, 90.

NORTH CAROLINA.—*Gaston*: The growth of the plant fair, and the fruitage exceedingly good. *Lincoln*: The season was never more favorable for the crop. *Pasquotank*: The crop at least 25 per cent. short. *Nash*: Rusted badly in some localities. *Pitt*: Picking progresses favorably. *Wilson*: Did not improve in September, owing to rust and cool weather. *Greene*: The rust appearing the 1st of September, spread rapidly, and caused all the late forms and young bolls to drop off. *Hertford*: Injured by excessive moisture, causing great growth of weed and but little fruit. *Wake*: The fiber is short, and the yield of lint to the quantity of seed-cotton unusually small. *Camden*: Not as good as August promised. September too cool. *Anson*: Shed forms badly. *Haywood*: Very short and light, and indicates inferior quality. *Mitchell*: Too much rain for corn; very light. *Duplin*: Will not make more than half a crop on sandy land; better on stiff lands. Fully one-half has been picked out. *Edgecombe*: Some improvement since the last report.

SOUTH CAROLINA.—*Beaufort*: Cut off almost one-half by drought. *Clarendon*: Rust general. *Carleton*: Turning out much better than was expected. *Newberry*: Late rains have caused a good crop of young bolls on lands not injured by rust. *Horry*: The falling off due to rust. *Lexington*: The quality good and the weather favorable for picking. *Richland*: Abundant rains injuring the cotton by staining it. *Chesterfield*: Has opened rapidly; good weather. *Orangeburgh*: Gathering lighter than expected. *Laurens*: The early bolls nearly all open and picked out—a thing unprecedented. Much of the cotton already sold to meet those unfortunate gnanio liens.

GEORGIA.—*Harris*: Worse than ever before; a late drought stopped it and caused the bolls to open prematurely. *Worth*: Shedding badly, and ruined with rust. *Gwinnett*: Heavy rains from the middle of September to the 1st of October have damaged the open cotton by dirt and stain. *Marion*: Shortened by black rust. *Muscogee*: Rains came too late. *McDuffie*: On gray lands all has died out from rust since the last report. *Butts*: The great falling off caused by unusually dry and hot weather in September, and rust. *Barton*: Rains are staining cotton to a considerable extent. *Brooks*: The prospect improved in September 5 per cent. *Macon*: Rains have been very damaging. *Banks*: Favorable weather for picking. *Douglas*: On the 15th of September about half was opened; on the 16th came a storm, lasting several days, which injured it very much. *De Kalb*: The prospect has fallen off since the 1st of September; unfavorable. *Elbert*: A drought the first fifteen days of September has materially changed the prospect. *Hart*: Picking progressing in earnest; the crop will be short fully 25 per cent. *Terrell*: The last week very wet and unfavorable to cotton. *Walton*: Will be short of former estimates; drought and excessive rains. *Walker*: An abundance of rain injuring the cotton very materially, preventing picking and opening. *Whitfield*: Very late in opening, owing to the wet weather. *Cobb*: Injured by excessive rains. *Jackson*: Will make about two-thirds of a crop. *Madison*: Failure of rain the last three weeks has caused late forms to shed; will not make more than half of a good crop. *Wilkes*: All late cotton was shed; bad weather for picking. *Pike*: Will all be open by the 20th. Picking is fully up with the opening.

FLORIDA.—*Jackson*: After the promise of a fine top crop, the worm made its appearance in force and cut off our hopes. *Madison*: Very little rain; opening very fast, and gathered rapidly for market. *Hamilton*: A great deal of the short staple was actually killed by the drought of July and August. The long staple stood it better; wherever that was planted there is a fair average yield. *Columbia*: Early cotton rusted badly; late injured by the caterpillar in many localities. *Gadsden*: Very good weather for picking; one-half of the crop already housed. *La Fayette*: Reduced by drought. *Leon*: Has done well the past month; full of young bolls and forms. The caterpillars have eaten out a few crops, and to-day the worms, of almost microscopic size, are quite numerous.

ALABAMA.—*Montgomery*: Improving and doing well. *Coffee*: The rust continues to injure it, and the want of rain keeps it shedding its forms. *Randolph*: Injured by drought. *Conecuh*: The rains and wind of the last ten days have done great damage to the crop. *Shelby*: Two-thirds open, and being much damaged by wind and rains. *Limestone*: Cotton put at 85, because of its lateness. *Dallas*: Seriously injured in quantity and quality by the rains of September. *Bullock*: Ten per cent. better than on the 1st of September. *Jackson*: The prospects reduced by the continued wet weather.

MISSISSIPPI.—*Lee*: Still raining and cotton rotting, shortening the extremely flattering promise. *Jefferson*: Badly injured by rust and by frosts September 19–21. *Hancock*: Injured to a small extent by the equinoctial blow. *Grenada*: Recent heavy rains and rust have damaged the crop fully 10 per cent. since the last report. *Pike*: Injured by heavy rains. *La Fayette*: The weather of September exceedingly propitious, except the three days' equinoctial storm, which injured the quality more than the quantity. *Noxuba*: Rusted badly. *Wayne*: Rain and wind, twelve days ago, caused a great deal to fall out; picking going on actively. *Claiborne*: Half open; labor working well. *De Soto*: The top crop has fallen off. *Franklin*: The season for gathering has been quite unfavorable; the crop materially damaged by heavy rains. *Winslow*: Injured by rust and rain. *Clark*: Greatly injured by black rust; the grade will be low. *Lincoln*: Seriously injured by rust on low lands; picking well advanced. *Madison*: Has fallen off much since last report, owing to rotting of bolls. *Wilkinson*: Rains and winds throughout September injured the crop very much. *Adams*: In an experience of some fifty years, a wet August has never given me a good crop of cotton. *Holmes*: Has shed badly. *Lowndes*: Has been cloudy and rainy nearly the whole month, retarding the gathering of cotton and making a very poor sample. Political disturbances, low prices, and bad weather will cause a great deal to be wasted. *Le Flore*: Very much damaged by the continued rains, causing it to shed and rot. *Rankin*: Continued rains have caused considerable rotting of bolls; much has been beaten into the ground, and many bales washed away by the floods. *Bolivar*: A great deal of wet weather has rotted the cotton badly. *Jones*: Cut short by rust at least 25 per cent.

LOUISIANA.—*East Baton Rouge*: Greatly damaged by excessive rains and high winds. *Franklin*: Seriously damaged by a rain-storm. *Rapides*: Materially injured by rain-

storms. *Richland*: Much injury from rust, and more from heavy rains. *Caddo*: At least 60 to 75 per cent. of the crop open. A heavy storm September 17 beat out 30 per cent., of which about 10 per cent. will be picked up. Labor doing remarkably well. *Cameron*: Damaged by the storm, 14th-16th, 50 per cent. *Madison*: A large falling off, principally caused by a light frost on the 18th—the earliest known for many years. *Morehouse*: A severe storm of rain and wind prostrated the crop, causing the portion next to the ground to rot; also injured by a light frost on the 17th. *Claiborne*: The storm of the 16th and 17th damaged the crop 15 per cent., and rust previously 10 per cent. *La Fayette*: Considerably damaged by wind and rains. *Carroll*: Picking not progressing as it should, and, should we have wet weather, a great deal will be lost. *Saint Landry*: Picking retarded by frequent and heavy rains. *East Feliciana*: Excessive rains and wind-storms have greatly damaged the crop in quantity and quality, and, owing to much sickness, it is being gathered very slowly.

TEXAS.—*Coryell*: Will make three-quarters of a crop; staple good; picking progressing finely. *Dallas*: The quality very fine. *San Jacinto*: Fair prospect for a full crop. *Burleson*: Much damaged by hard winds and rains. *Washington*: Damaged 15 per cent. by the equinoctial storm; one-half already picked. *Wood*: Fine. *Barnet*: Will not yield more than one-third of a bale per acre, owing to dry weather. *Harrison*: Damaged 10 to 20 per cent. by the most protracted storm of rain and wind ever known. *Polk*: Injured by a terrible storm of wind and rain, which lasted thirty-six hours. *Shelby*: Damaged 20 per cent. by the storm on the 16th and 17th. *Wilson*: Would have been a great deal better than last year had it not been for a storm, which commenced on the 16th and lasted three days. Will average about one bale per acre. *Angelina*: A violent storm of rain and wind has injured the crop perhaps more than 10 per cent. *Austin*: The prospect of a top crop was destroyed by the storm of the 17th, which beat off leaves, forms, and bolls in a manner never before witnessed. Cotton that was not picked nearly all lost. *Caldwell*: Somewhat damaged by the late storm. *Goliad*: Would have been above average but for the recent storm. *Rusk*: Was well opened, when the recent storm of rain and wind blew a great deal on the ground, which will be lost. *Titus*: The first or bottom crop very fine; light middle crop, owing to drought. Growth of the top crop fine, but the boll-worm will soon destroy all. *Matagorda*: Reduced by the late destructive gales to 25 per cent. *Lampasas*: Some farmers will average a bale to the acre. *Williamson*: The storm of the 17th shortened the crop at least 15 per cent. It blew out all that was open, and beat it into the ground. The crop is now taking a second growth, and, if frosts hold off till November 15, the fall picking will be good. *Cooke*: Opening very nice, and a good prospect of a fine yield. *Ellis*: The weather quite favorable for picking; more than half now saved. *Liberty*: Damaged at least one-third by the recent storm. *Lamar*: Crop will be very large; more lint per acre than in any year since 1861. The county will raise about 10,000 bales, from which 1,000 have already been shipped. At least 25,000 will be shipped from Brookston, our depot. *Lavaca*: A storm, commencing on the 16th and lasting three days, blew almost a hurricane; rain falling all the time. Cotton was blown out fearfully, and damaged at least 20 per cent. *Nacogdoches*: A severe gale on the 17th, with one of the hardest rain-falls, lasting twenty-four hours, did a great deal of damage, blowing out all the ungathered cotton and inundating all the low lands, just where the most cotton is made. *Upshur*: Now picking; some will gather 2,500 pounds of seed-cotton per acre, and others not more than 300. Rust has done much damage on all low lands. *Bosque*: Opening finely, and planters well up with their picking. *Fort Bend*: Injured 50 per cent. by the great storm. *Bastrop*: The great equinoctial storm destroyed 10 to 15 per cent. of the amount opened, the loss being equal to 1,000 bales.

ARKANSAS.—*Craighead*: Picking just commenced. *Hempstead*: Rust has reduced it almost to an average. *Calhoun*: Turning out well. *Arkansas*: The best crop for many years. A great deal of it picked and marketed. *Columbia*: Greatly damaged by a severe storm of rain and wind, continuing forty-eight hours. *Crittenden*: Too much rain, rotting the bolls and causing the top squares to fall off. *Cross*: Has failed considerably since the last report. *Independence*: Some injury from rust. *Montgomery*: Rust commenced about the date of the last report, and one-third or more of the area is affected. Picking has just commenced. *Stone*: Promises the best for many years. *Bradley*: Rust is the cause of reduction. *Prairie*: The best crop we ever made. *Crawford*: Only that on upland is ready for picking; that on the bottoms is two weeks late, and a heavy frost now would damage it much. *Fulton*: Best crop for years if frost keeps off a short time. *Jackson*: The best crop we ever had. *Sharp*: Being now shortened by drought. *Izard*: Several slight frosts, benefiting cotton by checking growth and causing it to open. *Union*: Injured by rust, and the heavy rain September 17 caused it to fall out, and a great deal to be gathered in a damaged condition. *Dorsey*: Rain has done almost incalculable damage to the crop; reduced it 20 per cent., and much more will be wasted for want of help to gather it. *Yell*: Opening very fast, and the picking-season unusually good up to this time. *Drew*: Damaged somewhat by rust and rain-storms. *Howard*: The promise of a month ago reduced by

drought. *Marion* : Never the like produced before in any two years. *Serier* : Rust mostly confined to low land. Picking progressing rapidly. *Franklin* : The yield 20 per cent. below on uplands, and 20 above on bottom-lands; average 110. September uniformly dry, hastening the opening.

TENNESSEE.—*Grundy* : Considerably behind. *Giles* : The outlook very poor. *Fayette* : No top crop; from the ground half-way up the stalk a good crop, but none above. *Wilson* : Not a large yield, but the quality good. *Putnam* : But few bolls on cotton; what has opened is of inferior quality. *Lauderdale* : Opening fast, and picking progressing well, considering the extra amount of sickness. On the bottoms of the Mississippi one-half the crop was destroyed by overflow.

POTATOES.

The crop, as a whole, promises to be extraordinary in both yield and quality. The only drawbacks upon condition, reported as originating in September, are too dry weather in isolated localities in Ohio, Wisconsin, and Missouri, and slight injuries from frosts in parts of Michigan, Illinois, Wisconsin, Minnesota, and Iowa. The principal causes in operation previous to September, resulting in a reduction of condition to some extent, are the Colorado beetle and rot, the latter as a consequence of rust in some instances and of excessive wet in others. Reduction by the beetles is noted in New Jersey, Pennsylvania, Delaware, Maryland, Virginia, Arkansas, and Ohio; by rotting, in Maine, Vermont, New York, Pennsylvania, Virginia, Ohio, Wisconsin, Minnesota, and Iowa. But at the time of reporting extensive damage from the latter cause was not apparent in any State except Maine, in which rust, followed by rotting, has reduced the condition since the 1st of August from 103 to 90. The other New England States are all above average, as are the six States which, with Maine, produce more than three-fifths of the whole crop, namely; New York, 101; Pennsylvania, 108; Ohio, 110; Illinois, 124; Michigan, 112; Wisconsin, 114. In Michigan, the returns generally concur in representing the crop as unprecedented in both yield and quality; and in Illinois, "abundant and of the best quality" expresses the prevailing tenor. Excellence of quality is also frequently referred to in Wisconsin and Indiana, condition in the latter being 104. The States beyond the Mississippi return, Minnesota, 101; Iowa, 107; Missouri, 110; Arkansas, 106; Kansas, 119; Nebraska, 127; California, 92; Oregon, 111. In New Jersey (87) and Delaware and Maryland (80) early drought had an ultimate effect, with the beetle, in reducing the condition. South of the Potomac and the Ohio, the States above average are, South Carolina, Tennessee, and West Virginia, 102, and Kentucky, 108. The other States range between 91, in Alabama, and 98, in Virginia, North Carolina, and Texas. Returns from Florida, Alabama, Texas, and Arkansas call attention to the fact that the figures for condition refer to a second crop. Our reporter in Prairie, Arkansas, states that he has raised this season a second crop from seed of the first, and on the ground which produced it.

MAINE.—*Piscataquis* : Not more than two-thirds of a crop; stopped growing when the rust struck them. *Waldo* : About three-fourths of a crop; vines killed in August by rust. *Franklin* : Early Rose rotted the latter part of August. *York* : Extra nice; some fields have rotted.

VERMONT.—*Rutland* : Good crop. *Orleans* : Rotted in the field; some have to leave on the ground; 50 per cent. affected ones. The yield good. Starch-factories pay only 20 to 25 cents.

MASSACHUSETTS.—*Berkshire* : The heaviest crop for years, and free from imperfections.

CONNECTICUT.—*New London* : Have seldom yielded as bountifully.

NEW YORK.—*Queens* : The Late Rose very fine. *Genesee* : Not as good as expected a month ago. *Wyoming* : Rotting to some extent, and do not yield as expected.

NEW JERSEY.—*Cumberland*: Almost a failure, owing to the beetle. *Atlantic*: Nearly a failure, owing to the beetle and to blasting.

PENNSYLVANIA.—*Bucks*: Early yielded well; late, cut short by drought and beetles. *Cameron*: Selling at a lower price than for ten years. *Bedford*: Good yield, but early potatoes affected by rot. *Delaware*: Injured in quantity and quality by the beetles. *Lawrence*: An excellent crop. *Mifflin*: The best crop for years. *Sullivan*: So abundant that they will have to be fed to the stock. *Elk*: A "powerful" crop, sound and good; the Peerless the most productive, and equal to any in quality. *Northumberland*: An enormous crop of very large and very fine potatoes.

MARYLAND.—*Howard*: A small crop, overrun with weeds, and bitten down by the Colorado beetle. *Cecil*: Injured by the beetle.

DELAWARE.—*Kent*: Greatly damaged by the beetle.

VIRGINIA.—*Rockingham*: Very much injured by the beetle, especially the late crop. *Chesterfield*: Good crop, in excellent condition. *Highland*: Good in every respect. *Washington*: Affected with rot.

FLORIDA.—*Jackson*: Second crop in good growing condition.

ALABAMA.—*Calhoun*: Badly injured by drought. *Bullock*: The first planting turned out excellently, but the second planting (to which the figures refer) not so promising.

MISSISSIPPI.—*Pike*: Fine. *Hancock*: Yielded better than usual.

TEXAS.—*De Witt*: The figures refer to the fall planting, now being worked for the first time.

ARKANSAS.—*Prairie*: Good. Have raised a second crop from the seed of the first, and on the same ground. *Izard*: Rotted before digging to a greater extent than for many years.

TENNESSEE.—*Greene*: A fair crop. *Blount*: Fine. *Dickson*: Large crop. *Henry*: Large crop, and safe from damage.

KENTUCKY.—*Lincoln*: The best crop for many years. *Harrison*: The crop four times that of 1874, and the quality 50 per cent. better.

OHIO.—*Medina*: Early varieties yield largely; late, injured by the Colorado beetles. *Ross*: Fine crop. *Fulton*: Have matured very finely. *Miami*: The largest crop ever produced. *Marion*: Early, considerably affected by the rot; late, extraordinary. *Williams*: The crop very good. *Sandusky*: Better than for many years; would not sell for 20 cents per bushel. *Adams*: Early, fine; late, doing poorly, owing to dry weather. *Hancock*: The largest crop ever known; selling at 20 to 25 cents. *Delaware*: An extra growth, but one-third rotted before digging. *Athens*: Very large yield and sound.

MICHIGAN.—*Kalamazoo*: Late, injured by a heavy frost September 18. *Grand Traverse*: Back from the bay, injured by frosts. *Tuscola*: Good. *Monroe*: Never better. *Oceanua*: Late; some damaged by frost. *Delta*: The price lower than ever before, though pinched by drought. *Delta*: Late, damaged by frost. *Saginaw*: Extra crop. *Shiawassee*: Heavy yield. *Newaygo*: The best crop ever known, in yield and quality. *Ottawa*: A first-rate crop; dry and mealy. *Mason*: Plentiful and very fine. *Wayne*: Never better. *Oakland*: The yield and quality never better.

INDIANA.—*Ripley*: The largest crop ever raised; secured in good order. *Franklin*: Very abundant and fine. *Whitley*: A large crop of good quality. *Marion*: Poor crop. *Jasper*: Never better. *Steuben*: Rotting. *Perry*: The crop a failure.

ILLINOIS.—*Pike*: Extra large. *Carroll*: Late; injured by frost. *Pope*: Drought in September will shorten the product. *Bureau*: Much better in quantity and quality than for years. *Cork*: The largest crop for ten years. *Shelby*: Abundant, and of the best quality. *Fulton*: Abundant, and no sale. *Montgomery*: Abundant and excellent. *McLean*: Never a better crop. *Marshall*: Enormous yield. *Massac*: Rather dry for late potatoes. *Hancock*: Abundant and good.

WISCONSIN.—*Waupaca*: Turning out from 75 to 200 bushels per acre; beginning to rot in some localities. *Ozaukee*: The condition would be higher than 110, were not the tops of the late kinds killed by frosts. *Pepin*: Begging at 20 to 25 cents per bushel. *Fond du Lac*: Immense crop and of the best quality; market price 10 to 15 cents. *Vernon*: Extra crop. *St. Croix*: Yield 150, and quality good. *Green*: The best crop for years.

MINNESOTA.—*Chisago*: Rot badly, owing to wet weather. *Mower*: Never better in quantity or quality. *Rock*: The best crop ever raised. *Wright*: In some localities destroyed by a heavy frost August 21. *Steele*: Never better.

IOWA.—*Alamakee*: Much damaged by frost. *Hardin*: A heavy crop, but some rotting. *Harrison*: Fine. *Lee*: Dull at 25 cents per bushel. *Muscatine*: Late; not as good as was anticipated. *Des Moines*: All killed by frost ten days ago. *Franklin*: A large yield, but rotting. *Cerro Gordo*: A big crop, but rotting badly.

MISSOURI.—*Greene*: A large and fine crop. *Nodaway*: Never better. *Perry*: Late, almost a failure from drought since the 1st of August. *Iron*: Very abundant and fine.

KANSAS.—*Reno*: Splendid; the best crop ever produced. *Osage*: Very large and fine crop. *Montgomery*: Unusually large crop.

NEBRASKA.—*Johnson*: Yield bountifully, and are very fine. *Merrick*: Better crop

than ever seen before. *Clay*: In yield and quality cannot be beat; never so good before. *Otoe*: The late potatoes have developed very finely. *Richardson*: Look splendid. *Knox*: Abundant. *York*: Enormous crop; in many cases 500 bushels per acre.

CALIFORNIA.—*Sonoma*: A partial failure, owing to blight and non-rotation.

SWEET-POTATOES.

The condition is average in Delaware; in Mississippi, 111; Louisiana, 101; Arkansas, 113; Kansas, 103. In other States which grow the crop to any extent, it ranges between 82 in Georgia and 98 in Pennsylvania, Maryland and Virginia. New Jersey, North Carolina, Tennessee, West Virginia, and Missouri are 97. In the Gulf States, except Mississippi and Louisiana, the crop did not fully recover from the pinching effects of the early drought. Recent dry weather has had some effect in reducing the condition in Illinois and Missouri, frost in Ohio, and excessive wet in Indiana and Iowa.

NEW JERSEY.—*Atlantic*: Fine.

VIRGINIA.—*Chesterfield*: Quality never better. *Princess Anne*: The season too wet. *Northampton*: Poor yield.

NORTH CAROLINA.—*Gaston*: Matured, and a very fine crop. *Chowan*: Short crop.

SOUTH CAROLINA.—*Clarendon*: The ground still entirely too dry and the roots very small. *Lexington*: Suffered from the early as well as the late drought. *Georgetown*: Has suffered seriously from drought.

GEORGIA.—*Marion*: Shortened by drought. *Muscogee*: Rains came too late. *Jefferson*: Almost ruined by drought. *Berrien*: Cut short by drought. *Wilkes*: It has been entirely too dry for the crop.

FLORIDA.—*Gadsden*: Much benefited by the August and September rains. *La Fayette*: Badly injured by drought. *Jackson*: Doing finely.

ALABAMA.—*Crenshaw*: Improving. *Mobile*: Backward, but now doing well as could be. *Montgomery*: Improving. *Jefferson*: The crop will be very large. *Calhoun*: Badly injured by drought. *Conecuh*: Somewhat damaged by late drought. *Dallas*: Very promising. *Bullock*: Improved more than 10 per cent. since September 1st.

MISSISSIPPI.—*Pike*: Fine. *Hancock*: Yielded better than usual. *Jefferson*: Fine. *Lee*: Very heavy crop.

LOUISIANA.—*Franklin*: Very promising.

TEXAS.—*Austin*: The crop will be the smallest for many years. *Rusk*: Now growing finely. *De Witt*: Short in quantity 20 per cent.; many prevented from planting by drought. *Bastrop*: Small crop, owing to the drought.

ARKANSAS.—*Arkansas*: The best ever seen. *Fullon*: The present drought has injured the crop 10 to 20 per cent.

TENNESSEE.—*Dickson*: Large crop. *Henry*: Large crop and safe from damage.

OHIO.—*Lorain*: Killed by frost September 24.

INDIANA.—*Carroll*: Much injured by the wet weather.

ILLINOIS.—*Montgomery*: Abundant and excellent. *Massac*: Rather dry for sweet-potatoes.

IOWA.—*Harrison*: Too wet for sweet-potatoes.

MISSOURI.—*Phelps*: Cut short by drought.

CRANBERRIES.

NEW JERSEY.—*Atlantic*: The crop promised to be extra large until a few days before picking time; then a peculiar disease, which seemed like the bite of an insect, attacked them, and most of the crop is lost. There are several hundred acres in the county, and the loss amounts to many thousand dollars. *Camden*: Badly scalded in some localities.

WISCONSIN.—*Juneau*: Will not be over 25 per cent. of an average crop. The loss to this county is heavy, as they are an important production. *Portage*: Did not bring to the owners one-quarter of what they promised early in August. *Monroe*: A fair crop, although one-third frozen.

MINNESOTA.—*Mille Lacs*: Frost, August 22, destroyed the crop. *Chisago*: A total failure; killed by frost.

TOBACCO.

The condition of tobacco, on the whole, is 2 per cent. above average. The New England crop is unusually fine, Massachusetts being 14

per cent. and Connecticut 10 per cent. above average. Of the Middle States New York is 2 per cent. and Pennsylvania 10 per cent. above average. The great central tobacco region—including Maryland, 106; Virginia, 106; West Virginia, 98; North Carolina, 105; Kentucky, 110; and Tennessee, 95—will, on the whole, realize an unusual crop, though in some counties injuries from frost and other untoward influences are complained of. The season has been mostly very favorable both for the maturing and curing of the plants. In Virginia, Prince Edward, Carroll, Goochland, and Orange Counties claim crops larger and finer than for many years; Campbell, with an unusual quantity, complains of loss from “frenching” and “firing.” In North Carolina, Caswell has a large crop, but poor and deficient in oil. In Person the product is fine, and the coal-curing process for bright wrappers has been remarkably successful. In Kentucky, Daviess claims a crop of 8,000,000 pounds, a third larger than that of the census year. Christian will gather a larger quantity than ever before. The rains of July and subsequent drought injured the yield in Cumberland, both in quantity and quality. Some complaints of frost are received, but the increased yield must be very great, though in some counties producing an unusual proportion of lugs. Frost is also reported in Tennessee, where the reduction of the State average is owing to injuries to the crop in one or two large tobacco counties; the reports generally are quite favorable. The small crops of South Carolina, Georgia, and the Gulf States are above average, notwithstanding a deficiency of 10 per cent. in Louisiana and 7 per cent. in Texas. Arkansas is 9 per cent. above average.

Our reports from the tobacco regions north of the Ohio indicate serious injury to the crop, mostly from the early occurrence of frost. Ohio is 22 per cent. below average; Michigan, 50 per cent.; Indiana, 16 per cent.; Illinois, 8 per cent.; and Wisconsin, 33 per cent. The higher the latitude, the greater the depreciation. West of the Mississippi River, Minnesota and Iowa are full average and Nebraska 5 per cent. above. Missouri, the only large tobacco State of this region, is 3 per cent. and Kansas 4 per cent. below, considerable frost being noted in some counties. On the Pacific coast, California is full average. In Contra Costa, the plant grows astonishingly without irrigation. The culture is here increasing. The very small crop of Oregon is 2 per cent. below average.

MARYLAND.—*Charles*: Much improved since the last report. *Calvert*: The weather of September favorable for securing the crop; but much of it was badly fired and converted into “ground-leaf,” reducing the quantity per acre. The quality, color, and texture, will be above average. *Howard*: A favorable planting and growing season has given one of the largest crops ever raised.

VIRGINIA.—*Campbell*: More than average in quantity, but much of the crop frenched and fired. *Nottaway*: The greater part must be housed green in order to prevent frosting. *Carroll*: Finer crop than any previous year; larger leaf and finer in quality. *Halifax*: Fine weather for saving and curing. Large crop in pounds, but the quality very common. *Orange*: Magnificent crop. *Pittsylvania*: Inferior in quality, but not in quantity. *Caroline*: The weather has been propitious for curing and housing the crop, which may now be regarded as safe. *Floyd*: Slightly injured by frost. *Chesterfield*: Quality very good; much cut and housed. *Goochland*: Season favorable for cutting and securing; prospect for a much heavier crop than last year. *Page*: Favorable weather for maturing. *Madison*: Generally good, but much of the crop light, owing to late planting. *Prince Edward*: The largest and best crop in ten or twelve years. *Mecklenburg*: Most of the crop housed. *Fluvanna*: September very favorable for the ripening of tobacco.

NORTH CAROLINA.—*Caswell*: The curing has been generally successful, resulting in a larger quantity of yellow-leaf than usual, but poor in quality—deficient in oil. *Davie*: The weather has been remarkably fine for cutting and curing. *Person*: The great staple of this county will be of fine texture, and farmers have succeeded splendidly in coal-curing for bright wrappers. *Union*: The quantity produced yet small, but increasing from year to year. *Heywood*: Very fine.

FLORIDA.—*Gadsden* : The crop of Cuba tobacco, in both yield and quality, the best since the war; estimated at 800 boxes of 400 pounds each.

ARKANSAS.—*Fulton* : Never better.

TENNESSEE.—*Grundy* : The last week in September brought some frost, which injured the crop in places. *Smith* : Will be a large crop and average in quality if carefully handled. *Dickson* : Good condition; most of it housed without frost. *Wilson* : Condition good, and the yield will be large. *Henry* : Fair crop; about all housed in good condition. *Macon* : The fine weather of August and September brought the crop out greatly, but the quality will be poor. *Robertson* : The crop improved very much in September; the late cuttings are good and very fine in quality.

WEST VIRGINIA.—Will be of unusually good quality. *Mercer* : Good in quantity, but is thought not to be so good in quality. Some damaged by frost. *Summers* : Injured to some extent by frosts.

KENTUCKY.—*Livingston* : A good deal frosted. *Warren* : The weather now fine for tobacco. *Jefferson* : The season has been very favorable for the maturing of the crop. *Christian* : Will be more made than ever in any year before. *Monroe* : Generally late and in danger of frost. *Cumberland* : Rains of July and subsequent drought have materially injured the crop both in quantity and quality. *Daviess* : Generally small, and nearly one-half uncut. The present prospect is for a crop of 8,000,000 pounds. *Graves* : As much cut and housed as ever before, or more; but there will be a larger per cent. of lugs than usual.

OHIO.—*Guernsey* : Late tobacco considerably injured by two severe frosts. *Monroe* : Some damage from recent frosts—perhaps 5 per cent. *Noble* : On low land injured by frost. *Adams* : Mostly housed before frost, and a pretty fair article. *Morgan* : Heavy frosts on the 23d and 24th killed all not housed.

INDIANA.—*Carroll* : Greatly damaged by the wet weather.

ILLINOIS.—*Pope* : A larger area than usual, but the quality not good. *Massac* : A nice dry fall for saving tobacco.

WISCONSIN.—*Walworth* : Ruined by frost.

IOWA.—*Allamakee* : Much damaged by frost.

MISSOURI.—*Camden* : Of No. 1 quality, and being housed in good condition. *Ozark* : Damaged by frost 33 per cent. *Pettis* : Considerable of a crop; of excellent quality.

CALIFORNIA.—*Contra Costa* : Tobacco takes root with astonishing readiness and grows surprisingly without any irrigation.

RICE.

NORTH CAROLINA.—*Brunswick* : The great crop was formerly rice, but since the war the production has fallen off from 200,000 baskets to less than 20,000, and no crop has taken the place upon the large and valuable rice-plantations, which have consequently almost gone to ruin.

SOUTH CAROLINA.—*Beaufort* : On upland, cut off almost one-half by drought; on the tide-waters will prove a large yield. *Colleton* : The crop very fine.

GEORGIA.—*Camden* : The crop on the Satilla River, now being taken to market, will amount to over 140,000 bushels of rough rice; about 20,000 bushels more than last year. *McIntosh* : Above an average crop, of poor quality.

FLORIDA.—*Santa Rosa* : The amount planted is much larger than usual, and it is a very remunerative crop. *La Fayette* : Acreage 500 per cent. and a fair crop.

LOUISIANA.—*La Fourche* : The crop very fine in yield and quality. I have a few arpents of land in rice, which have produced 25 barrels per arpent, worth \$14 to \$15 per barrel.

SUGAR-CANE.

GEORGIA.—*Jefferson* : Almost ruined by drought. *Berrien* : Cut short by drought. *Upson* : Cut short by severe heat in July and August.

FLORIDA.—*Jackson* : Not more than 30 per cent. of a crop planted for want of seed; will make an average yield. *Madison* : A little better than last month. *Gadsden* : Brought up to full average by the August and September rains.

ALABAMA.—*Crenshaw* : Improving. *Mobile* : Largely increased acreage, in average condition. *Conecuh* : Greatly damaged by drought. *Bullock* : Seriously injured by the drought in July, but much improved since.

MISSISSIPPI.—*Franklin* : Our leading planters are manufacturing their sugar and molasses at home from Louisiana and African cane. *Winslow* : Much cane will not be ground up for want of mills, and will be lost.

LOUISIANA.—*La Fourche* : Has not justified the promise by its fine appearance in the spring.

SORGHUM.

NORTH CAROLINA.—*Hertford*: Increased, and a very fine crop. *Haywood*: Very fine
 GEORGIA.—*Hart*: A large crop gathered. *Jackson*: On the increase, and next year
 the quantity will be doubled, from the fact that we have introduced the Cook evapor-
 orators. *Upson*: Cut short by the severe heat in July and August.

ALABAMA.—*Calhoun*: Fine; a great increase in acreage over last year, perhaps 200
 per cent. *Conceh*: Above average 50 per cent. *Shelby*: Almost every class and con-
 dition, from the gray-headed sire of seventy to the stripling of sixteen, are busily en-
 gaged in having their sorghum made up, leaving cotton and everything else to the
 mercy of wind and rain. Sorghum is pushed to the front as a compromise between
 the high price of meat and the low price of cotton. *Bullock*: Seriously injured by the
 drought in July, but much improved since.

MISSISSIPPI.—*Winslow*: Nearly all blown down after a heavy rain. At least 50 per
 cent. more will be planted the coming season than last.

TEXAS.—*Austin*: The first crop yielded 80 gallons per acre of fine sirup. The sec-
 ond crop will not be worth grinding. *Upshur*: The crop has been greatly increased.

ARKANSAS.—*Columbia*: Largely on the increase. A number of mills and evaporators
 brought into the country will induce the planting of a still greater breadth. *Inde-
 pendence*: Twenty-five per cent. more planted than usual. *Fulton*: Increased acreage
 and excellent crops.

TENNESSEE.—*Blount*: Better than for years. *Dickson*: The largest crop ever grown;
 made into sirup of good quality. *Wilson*: Unusually large yield. The mills have
 been running for weeks, some of them *all night*.

INDIANA.—*Shelby*: Some injured by frost.

ILLINOIS.—*Madison*: Late, but promising a full average.

WISCONSIN.—*Richland*: Cut short by frost.

IOWA.—*Marion*: Nearly a failure. *Guthrie*: Seed sent out as "imported" is a per-
 fect failure; has a drier, whiter inside than corn or broom-corn. A good mill can get
 but very little juice out of it, and that little proves to be worthless. Other seed gives
 a good crop.

KANSAS.—*Osage*: A large crop of good quality.

NEBRASKA.—*Knox*: The growth of the crop stopped while much of it was in bloom,
 by frost accompanied with ice, September 21.

HOPS.

NEW YORK.—*Oneida*: The crop all harvested and the yield at least one-third more
 than any crop for the last five years.

MICHIGAN.—*Calhoun*: Yielded about 500 pounds per acre, and of very fine quality.

WISCONSIN.—*Monroe*: About two-thirds of a crop.

CALIFORNIA.—*Alameda*: The product quite good; from one-eighth to one-fourth
 more than last year.

OREGON.—*Benton*: Excellent crop; large yield on all the fields. The culture here is
 yet in its infancy, but the bottom-lands of the Willamette will probably prove the
 finest lands in the world for hop-growing.

HEMP.

KENTUCKY.—*Mercer*: Our hemp-crop is very fine, and has been cut in good time.
Fayette: Have just finished cutting a larger crop of hemp than has been produced for
 several years, and the quality, up to this stage, is above average.

FATTENING CATTLE.

The number of fattening cattle in the country is somewhat greater
 than last year. There is a falling off in all the New England States
 except Connecticut, which reports an increase nearly balancing the de-
 ficiency of the others. Of the Middle States, New Jersey reports a
 numberequal to last year, but the others show a decline, Pennsylvania re-
 ducing her estimate 6 per cent. The South Atlantic Coast States show
 a small increase, North and South Carolina making good the loss of 7
 per cent. in Maryland. Texas, by an increase of 6 per cent. upon her
 large aggregate, raises the number of the Gulf States considerably
 above last year, notwithstanding the decline in all the other States,

amounting to 12 per cent. in Louisiana. Of the southern inland States Arkansas reports an increase, but this is more than counterbalanced by the loss in all the others. North of the Ohio River, Michigan and Illinois equal last year's report, but the other States fall below. West of the Mississippi all the States report an increase ranging from 2 per cent. in Nebraska to 53 per cent. in Kansas. On the Pacific coast the loss of 8 per cent. in California largely exceeds the gain of 9 per cent. upon the smaller aggregate of Oregon.

All the New England and Middle States report a condition above average except Massachusetts, where the deficiency is only 1 per cent., the maximum, 107, being in Connecticut. The South Atlantic Coast States and Gulf States are all above average except Maryland, 98, and Florida, 99. The southern inland States and the States north of the Ohio River and west of the Mississippi are uniformly above average, the maximum, 112, being in Arkansas. On the Pacific coast, California is 5 per cent. below average and Oregon 2 per cent. above. From the accompanying notes of correspondence it will be seen that scarcity or plenty of feeding material may both operate to increase the number of fattening cattle. In some counties, as in Sullivan, New York, it is found more profitable to utilize a scant stock of food in preparing animals for market than to keep them over. In others, as in Cook, Illinois, and Greene, Missouri, the abundance of the feeding crop is an inducement to enlarge the number of fattening stock. In several counties of Kansas the immense corn-crop is being largely consumed by cattle from abroad.

MAINE.—*Piscataquis*: Much above average in condition.

NEW YORK.—*Queens*: Root-crops for fattening cattle are abundant, and the stock look better than for several seasons past. *Sullivan*: Scarcity of hay increases the number of fattening cattle, and good, full feed gives them a condition above average.

PENNSYLVANIA.—*Bucks*: Short pastures and scarcity of fodder prevented the usual supply of fattening cattle from being brought into this section. *Armstrong*: Few cattle fattening.

VIRGINIA.—*Rockingham*: Stock of all kinds looking well. *Carroll*: Better than last year and increasing. *Highland*: Will compare favorably with last year.

NORTH CAROLINA.—*Davie*: In better condition than usual.

TEXAS.—*Coryell*: In fine condition, but the number reduced. *Dallas*: In fine condition, with good prices. *Medina*: Large sales of our beeves in the Kansas and Missouri markets have reduced their number.

WEST VIRGINIA.—*Pocahontas*: Fattening well.

MICHIGAN.—*Newago*: Not as plenty as last year, but in excellent condition.

INDIANA.—*Marion*: Very few will be fed this season.

ILLINOIS.—*Cook*: Our abundant crop induces more feeding. *McLean*: Never saw them look so well.

WISCONSIN.—*Walworth*: Will be but few fattened, for want of a corn-crop.

IOWA.—*Lee*: Plenty, and in unusually good flesh.

MISSOURI.—*Greene*: Think there was not a dozen cattle fattening in the county last year. We had no corn, and nearly all our hogs were shipped. This year we have an immense corn-crop, and but few hogs. The result is that large numbers of cattle will be fattened for market.

KANSAS.—*Nemaha*: In place of but few fattening cattle in the county last winter, there will be many this, both native and foreign, to consume the corn-crop, which is immense. *Woodson*: Our farmers are endeavoring to market their surplus corn by feeding cattle. *Lyon*: Last year none fattened except for home consumption; this year many hundreds, for shipment, corn being abundant and cheap.

CALIFORNIA.—Have fallen off greatly in numbers, but are in excellent condition.

Table showing the condition of the crops, &c., on the first day of October, 1875.

States.	WHEAT.		RYE.		OATS.	BARLEY.	BUCK- WHEAT.	CORN.	POTATOES, (<i>Solanum tuberosum</i> .)	POTATOES, (<i>Batatas ed- ulis</i> .) SWEET.
	Product com- pared with last year.	Average qual- ity compared with last year.	Product com- pared with last year.	Average qual- ity compared with last year.	Product com- pared with last year.	Average qual- ity compared with last year.				
Maine.....	94	99	101	103	105	97	97	100	90	.....
New Hampshire.....	101	103	101	101	100	101	102	100	104	.....
Vermont.....	102	101	94	100	111	100	100	94	102	.....
Massachusetts.....	89	100	112	95	108	100	110	100	101	.....
Rhode Island.....	.....	90	94	82	102	77	93	97	103	.....
Connecticut.....	100	100	104	102	109	102	101	107	111	.....
New York.....	57	91	81	98	106	106	98	90	101	.....
New Jersey.....	66	84	79	97	85	.....	99	111	87	97
Pennsylvania.....	85	95	93	98	110	102	103	106	108	.....
Delaware.....	91	100	100	100	63	.....	100	103	80	100
Maryland.....	91	101	97	96	91	65	87	98	103	80
Virginia.....	94	95	100	95	81	92	100	106	111	98
North Carolina.....	107	95	99	97	101	.....	.....	102	98	97
South Carolina.....	105	100	100	107	120	100	98	84	102	86
Georgia.....	105	106	92	101	100	97	105	88	95	82
Florida.....	.....	.....	100	100	91	100	.....	89	96	88
Alabama.....	110	102	98	98	96	125	92	110	91	94
Mississippi.....	154	104	109	103	128	.....	103	112	102	111
Louisiana.....	105	90	92	87	106	.....	.....	96	93	101
Texas.....	170	105	130	108	144	108	102	115	98	90
Arkansas.....	175	103	155	104	174	181	102	110	106	113
Tennessee.....	118	90	101	93	102	97	102	105	102	97
West Virginia.....	57	67	88	84	94	77	84	99	102	97
Kentucky.....	93	71	88	80	83	106	79	114	108	90
Ohio.....	60	68	71	79	100	63	96	91	110	94
Michigan.....	84	91	99	99	121	110	91	98	112	100
Indiana.....	66	60	77	80	47	64	83	91	104	84
Illinois.....	68	72	98	92	106	95	80	97	124	94
Wisconsin.....	102	103	130	105	108	98	88	104	114	105
Minnesota.....	103	96	90	97	98	102	82	74	101	100
Iowa.....	76	74	85	107	80	81	94	91	107	91
Missouri.....	67	73	97	90	92	83	104	111	110	97
Kansas.....	84	93	103	100	73	99	104	117	119	103
Nebraska.....	63	92	96	90	53	83	103	127	92	94
California.....	71	95	96	90	102	79	97	96	92	86
Oregon.....	95	101	100	106	100	99	101	101	111	.....

EXTRACTS FROM CORRESPONDENCE.

DISEASES OF HOGS.—*Frederick, Maryland*: Hog cholera is prevailing to an alarming extent in several localities. Some planters are reported to have lost nearly their whole stock. Best baking-soda, one tablespoonful per hog, is said to be a sure and speedy remedy; also for cholera among chickens. *Jasper, Iowa*: A great many hogs dying of cholera.

FULTZ WHEAT.—*Juneau, Wisconsin*: Winter-wheat was below average, owing to rust, except Fultz, which was not much injured. A neighbor had 18 bushels of Fultz from one acre, and from an adjoining acre only 11 bushels of the common variety. Another neighbor raised 118 bushels of Fultz, all of which is engaged for seed.

FRUIT CULTURE EXTENDING.—*Camden, Missouri*: Many of our farmers are investing largely in fruit culture, especially apples and grapes. Orchards and vineyards are being put out in every direction. The great lever in promotion is the Fairview Pomological Society, which by scattering information on the subjects, and by personal examples, is doing a good work in this direction.

FRUIT CULTURE IN FLORIDA.—*Orange County*: The cereal crops are being fast abandoned, and supplanted by the culture of oranges. The whole county bids fair to become one vast orange-grove. New experiments in the use of fertilizers and in irrigation are being made. On the 1st of September there was organized at Maitland the Farmers and Fruit-Growers' Association of Orange County. *Greene*: Fully matured, and by far the largest and best crop in ten years. *Putnam*: In this county rapid progress is being made in the production of fruits. Oranges and lemons bid fair to be an average good crop. In a few years these products will be of great importance. The *Musa* or banana, owing to a mild winter, are producing wonderfully, especially *Sapientum*. We have also several varieties that are fruiting finely, and are superior to the above. We also have an excellent crop of guavas, and doubtless a large quantity will be converted into jelly. Limes are quite abundant, and will soon be furnished in quantities for shipping.

CYCLONE IN TEXAS.—*Galveston*: A cyclone, commencing on the 15th of September, and continuing three days, caused the waters of the Gulf to cover almost the entire island, thirty miles long and about two miles wide, and portions of the county on the mainland. Almost everything in the shape of crops and vegetation is badly injured, and in many cases entirely ruined, by the salt-water of the Gulf and the severe winds. The injury to the cotton-crop is very severe. The damage to the city of Galveston will not much exceed \$100,000. *Nacogdoches*: On the 17th of September a severe gale from the northeast, with one of the hardest rain-falls, lasting twenty-four hours, did a great deal of damage to farmers generally. It blew out all the ungathered cotton, and inundated all the low lands just where the most cotton is made. Beyond doubt this county was injured to the amount of many thousand dollars. *De Witt*: The cyclone which destroyed Indianola, September 15 and 16, amounted to quite a gale here. Wherever cotton was not gathered it was blown from the bolls and destroyed. *Fort Bend*: The recent great storm that visited our coast, extending far into the interior, greatly damaged our corn and cotton crops. It blew down the corn, and inundated the land, causing it to rot and sprout. It tore the cotton to pieces,

blew all that was open out of the bolls, and blew down cotton-houses, thus exposing that which had been picked. It injured the crop at least 50 per cent. *Matagorda*: A most terrific storm began on the morning of September 15; about dark it increased to a gale, and continued of about the same intensity for twenty-four hours, when it increased to a terrible tornado, which continued until 3 o'clock the next morning, the 17th. It carried in its course destruction, desolation, and death. At the same time rain deluged the earth. As the papers will give full accounts of the destruction of towns, houses, farm-animals, and people, I will confine myself to its effects on the crops. This it is impossible yet to estimate. All open cotton, which constituted the bulk of the crop, was blown and washed away. Many gin-houses were either blown down or unroofed, by which much cotton was either lost or damaged. The cotton-stalks being entirely stripped of leaves by the wind, a bright sun and warm days rapidly developed the remaining bolls, when, on the nights of the 24th and 25th, we had a recurrence of the gale. This was not so severe, but materially injured the lately-opened cotton, reducing the condition to 25 per cent. It also did great damage to the corn. On the 18th of September, 1854, just twenty-one years ago, this county suffered a similar disaster, though the storm was less in duration and extent. *Bastrop*: The great storm, which caused immense havoc and ruin in our coast towns, did much damage to the cotton-crop in this county. The loss is not less than 1,000 bales, or 10 to 15 per cent. of the amount opened.

MIXED HUSBANDRY VERSUS COTTON.—*Sussex, Virginia*: The cereals are attracting more attention from our farmers. They are becoming more alive to the fact that cotton alone is not sufficient for all the demands made upon it. Before the war we raised negroes, and worked them, ourselves, and our lands almost to death in order to get money to buy more negroes. Now, cotton has been substituted for the negro. We work ourselves almost to death to make cotton, and, as soon as made, we sell it to buy commercial fertilizers and hire labor to make more cotton, and so on, never having anything except a little cotton, which we expend, in the ways indicated, to enable us to make more cotton. But let us get to making grain largely, raising stock, and diversifying our crops, and the good old days will return when, instead of sitting down to our dinners with a little piece of *scrawny western shoulder*, bought on credit, we will have Virginia ham and cabbage, both of our own raising, and all the splendid luxuries on which we were raised, but which *now* are creatures either of fancy or of the memories of the dead past.

Nash, North Carolina: We are beginning to plant wheat and turn more attention to grass and stock-raising.

Hart, Georgia: The farmers of the county have raised more provisions than in any year since the war, and there is a reasonable prospect of a greater increase next year.

Henry, Alabama: Our people are determined to plant more small grain than ever since the war, and to study economy in every department of the farm. We will try to make our farms self-sustaining, and at the earliest day possible will remove our smoke-houses and corn-cribs from the West and locate them at home.

Carroll, Louisiana: The county will raise plenty of corn for home consumption, and more meat than for years.

CASTOR-BEANS AND FLAXSEED IN MISSOURI.—*Vernon*: Castor-beans and flaxseed are quite crops in this county. The former averages this

year $13\frac{1}{4}$ bushels per acre, or 106,000 bushels in the county; the latter $6\frac{3}{4}$ bushels per acre, or a total of 133,000 bushels.

Saint Clair: Castor-beans and flax are crops with us this year. The latter was greatly injured by the wet weather.

Pettis: The crop of castor-beans is quite large for an experiment, and promises a large yield.

LARGE POTATOES.—*Knox, Kansas*: On my garden, first crop, after breaking the sod, I planted one-half bucket of Early Rose, cut to single eyes, planted two feet distant. The yield was 30 bushels, and the average weight was a half pound each, many weighing one pound each, and over. Potatoes weighing two pounds each are reported in the county.

BROOM-CORN.—*Sumner, Tennessee*: The broom-corn crop of this county has been quite remunerative, yielding at least \$40 per acre. About 800 acres were planted.

Saint Clair, Missouri: About 100 acres of broom-corn were raised in the township of Roscoe, and other crops were raised in the county. The yield is very heavy. It is now baling for market.

CENTENNIAL ADDRESS.

Upon the occasion of breaking ground for the erection of "Agricultural Hall," preparatory to the celebration of the Centennial, at the park in the city of Philadelphia, the Hon. Frederick Watts, the Commissioner of Agriculture, was invited by the United States Centennial Commission to deliver an address on the 4th of July, 1875. Upon the platform erected for the speaker there were Maj. Gen. Jos. R. Hawley, President of the United States Centennial Commission; Hon. D. J. Morrell, chairman of the executive committee; Ex-Governor William Bigler; John Welsh, esq., President of the Centennial Board of Finance, with a number of the members of the legislature and members of the select and common council of Philadelphia. The following is the text of the address:

FRIENDS AND FELLOW-CITIZENS: We are prone to congratulate ourselves upon the attainment of our glorious independence—proudly to boast of the happily-conceived Constitution and laws under which we live, of the commerce of the seas which we enjoy, the right to choose the professional career of life for which our talent fits us and the manufacturing industry which our energy or taste may indicate; freely to express our thoughts without fear, and, above all and over all, to worship God according to the dictates of our own conscience. But what were all these if they were bestowed upon a barren and fruitless land? How worthy would they be of our consideration if we could forget for a moment that the enjoyment of them all is dependent upon the successful efforts of man to cultivate the earth?

What of the spirit of independence if our surroundings were the threatenings of poverty? What of the fundamental law of the land, if for our lives and property we had not constantly in view the stimulants which the productive character of the earth affords? What of the speculative and roving business of the merchant upon the high seas of the world, if he had not the products of agriculture to deal with? What of the ingenuity and skill of the manufacturer if his daily bodily wants were not supplied by the farmer? What of the value of freedom of thought and speech, if it were not for the marvelous proceeds of the earth, and the science and skill by which they are produced? And with what spirit could we approach God's throne of grace if we had not all these results for which to be thankful?

It is fit and proper, therefore, that in the preparation now being made to celebrate an event which affords a resulting example of free government to the world, and an exposition of its ability to progress in art and science for the first hundred years of its life, that they who plan this work and seek to guide its progress to a successful termination should give prominence to that feature which will dedicate this spot to the

interests of the farmer, and not only so, but to the undying memory of the Hon. Richard Peters, who lived and dwelt here, and whose name is like a household god in the family of every Pennsylvanian, to be worshiped as a teacher in the science of agriculture.

When we reflect that one-half of the population of the world is engaged in the business of agriculture, and that they and the other half are dependent for their existence upon its successful results, and both constantly hope that the bountiful supplies of God's providence may conduce to an abundant harvest, we have the united prayer of the whole human race, "God speed the plow."

It is not, then, to be considered a subject of wonder that we assemble here to-day to signalize the effort to give prominence to the position which the science of agriculture is to take in this international exhibition of this New World's progress.

What occupation of life has made such strides as that of agriculture? The steam-plow of to-day will supply the labor of the fifty horses of a few years ago; the separator now does the work of fifty men; the reaper and its attendants will accomplish fourfold the work of the labor of men, and with the rake, the tedder, the roller, the hay-fork, by all of which labor is made easy, and the laborer relieved from the toil which once oppressed him. In the exhibition of the world's progress there is no more favorable example than the march which the science of agriculture has made in the last century. A hundred years ago it was enough to know that if the earth be stirred and the seeds be sown their product and all else was the natural result of God's providence; that the plow, rude as it was then, was the best implement with which to till the earth, and that seed sown by the hand of man was all that was necessary to enable us to drag through the natural period of existence, thus made toilsome and miserable.

But the eyes of men have been since opened. It is not now enough to know that we live and move and have our being. That large portion of mankind engaged in the work of the world was not content thus to grovel and crawl, but were startled into an attitude of ambition and enterprise by the prodigious products of the minds of men around them, and their march was onward, never again to relapse into or contemplate an inferior condition. Now the agriculturist is taught to look upon this lovely earth of ours as the beautiful landscape of God's creation, which is imbued with the powers of life, to breathe and feed, and to yield its elements and products to the nursing and delicate operations of his hands. While he follows the plow he perceives its use; he sees in it how the educated mind of man has infused mechanical science into its structure. He marks well the work it has to do, and how well it is adapted to the work. He now contemplates the seeds he commits to the earth, and does not believe that it is the work of chance that they grow. He sees, too, that they are imbued with the germinating powers of life and light. He perceives that they are distinguished by the qualities of good and bad, and he knows that perfect analogy which characterizes life in its inception, growth in its progress, the product of their results, and the final death of all vegetable as well as animal creation. But, above all, and more than all, he has learned to know himself; that he is a part of this special work of God's hands, placed here to direct and govern all these things.

These are no artificial objects on which the agriculturist is to expend his happy life and thoughts. They are the delightful things of nature on which he operates, and nature co-operates with him in all his labors, and sweetens them to his contented spirit. And he rests upon this as the grand secret of his attachment to rural life, that, while he modulates and benefits by her functions, she takes up, quickens, and completes the work of his hands.

There is a living, moving, acting principle in the labors of the agriculturist which distinguishes him from other pursuits of life; the earth yields its strength and increase to the seeds he casts upon it, and to his cattle that walk upon it; the winds seem to blow, the rains to fall, and the waters to run for him; the very frosts and snows of winter give salutary checks to vegetation, lighten his soil, and destroy what is noxious for him, and every principle of animal and vegetable organization and existence co-operates to support and enrich him. There is a charm in this which must last while the spirit of man feels and acknowledges the strivings of his own mind, and the omnipotent power of God around him.

Farmers do not reason thus, but they feel it, and it is the mysterious working of this acting charm which has infused its sweetness into the hearts of all rural people in all ages of the world.

We have assembled here to-day to initiate a leading feature of the approaching centennial; to mark and fix the place where will be collected the products of American soil, and the machinery used in its production, a place to which the attention of the world will be called as a marked feature of the event which the approaching centennial meeting is intended to commemorate.

One hundred years ago this land was comparatively a barren waste, the habitation of savages and wild beasts, while now it is a beautiful garden; the field of the farmer, the home of the scientist, the city of the merchant, the office of the student, and the shop of the mechanic, where all work together in the prosecution of a common pur-

pose to promote the wealth, the health, and the happiness of each other, and the honor of our much-loved country.

In taking the first step toward the erection of this house, to be dedicated to the work of agricultural science, we address ourselves to the merchant and mechanic, the active and energetic motive-powers of busy life, and ask them to look with favor upon a project which has for its object the display of industry and science, as exemplified by the products and implements of agriculture. The busy marts of men are filled with the products of the farmer. His success and his profits largely contribute to that trade and commerce which are the products of your enterprise.

While the abundant yield of the husbandman enriches him, the result is favorably felt in every department of the merchant's counting-house and the mechanic's shop. As then you move and make your impress upon the minds of men, let your actions be tempered with the idea that all business, whether in the merchant's store, the mechanic's shop, or the mariner's ship upon the ocean, is dependent for its working elements upon the product of the farm.

We will not appeal in vain to the professor and the student, who possess the lights of reason and enjoy the fruits of knowledge, that their influence may be thrown into the scale of agricultural progress, that while you have in your hands that helm of power which gives direction to the elements of government you will always have in mind that to promote the true and efficient principles of political economy, to expand and increase the influence of that virtue whereby alone we may hope to maintain our own free government and laws, is to encourage the farmer.

We ask of the statesman while he advocates the interests of his constituents at the bar of the Senate, of the lawyer who advocates the cause of his client at the bar of justice, and of that sacred office which advocates the cause of man at the bar of Heaven, that they may ever remember the magnitude of the bounties of God's providence which come from the hands of the husbandmen.

Let me not forget to exhort her whose influence is always so strongly marked upon the characters of men, from their cradle to their grave, to look kindly and with favor upon that marked morality which characterizes the life of the husbandman—the mother whose affections root so deeply in the existence of her child; whose anticipations are often stimulated to painful anxiety for its welfare; who watches its progress in life with an eye to doubt and danger; whose hopes are elevated to the Giver of all good, that He may smile graciously upon the career of her darling child, or whose fearful forebodings may be realized in the spectacle that he is despised by the society of men and frowned upon by the attributes of Heaven. We invoke the prayer of this influence on the work this day began. And to all those assembled here we ask a helping hand and cheerful spirit in aid of those patriotic men who have undertaken to exhibit to the world the progress which has been made in science and art under the stimulating influence of a free government.

ENTOMOLOGICAL RECORD.

By TOWNEND GLOVER, ENTOMOLOGIST.



THE CHINCH-BUG.—The chinch-bug or Mormon louse of Walsh, *Micropus (Rhyparochromus) devastator*, is one of our most destructive insects to wheat, corn, &c., in some of the Western States, and has done considerable damage to the crops. The eggs, to the number of about 500, are laid in the ground about June, on or among the roots of plants, and the young larvæ, which are of a bright-red color, are said to remain underground some time after they are hatched, sucking the sap from the roots, and have been found in great abundance at the depth of an inch or more. The full-grown insects measure about one-twelfth of an inch in length, and are of a black color, with white wings, and may be known by the white fore or upper wings, contrasting with a black spot in the middle of the edge of the wing.

According to Dr. Shimer, an entomologist who has devoted much time and labor in the special study of this insect, the female occupies about twenty days in laying her eggs, which remain in the egg state fifteen days. The first brood matures from mid-July to mid-August, and the

second brood hatches out late in summer. Although only two generations are usually produced in the course of one year in Illinois and the more northern States, yet farther south there may be three broods. Some of the perfect insects continue alive throughout the winter, concealed under brush-heaps, logs, bark, stones, moss, &c., and revive in the spring to deposit their eggs in the earth. One specimen was taken in Washington, buried in the ground at a depth of about one inch and a half, in midwinter, and when first taken up appeared stiff and lifeless, but, after being placed in a warm room, it soon revived, and was as lively as ever. These insects in the larvæ, pupæ, and perfect states attack and destroy almost every description of garden-vegetables, grain, maize, herds and other grasses, wheat, oats, potatoes, and even injure buds of the pear and other trees, preferring principally the most succulent parts, as the buds and terminal shoots, puncturing them with their beaks, sucking the sap, and apparently poisoning the parts attached. In the summer of 1865, according to Dr. Shimer, the progeny of the broods of the preceding year were entirely swept off by an epidemic disease, which was doubtless produced by deficient light and electricity combined with the excessive humidity of the atmosphere.

This insect was named and described by Say, in 1831, as from Indiana, and in 1854 did considerable injury in Missouri. In hot, dry seasons these insects are most destructive, but heavy rains destroy them. In the single State of Illinois, Dr. Shimer estimated the damage done in 1864 to the wheat and corn crops by the chinch-bug at over \$73,000,000; and to give some idea of how these insects swarm in localities, it has been stated that in Ogle County, Illinois, as many as thirty to forty bushels a day were taken out of holes dug to entrap them, and the process was repeated until only three or four bushels could be shoveled out of the holes.

It is probable that the normal state of this insect is to take wing in spring and summer, during their love season, but at other times they appear unwilling to use their wings at all; and it is said that there are two varieties, one with long and the other with short wings. It is also stated that this insect is found in Canada, and was remarkable for having the wings only half as long as the abdomen. Chinch-bugs multiply much faster in dry seasons, wet weather being unfavorable to them.

They are destroyed by several parasites, among which are several species of lady-bugs, (*Coccinellidæ*.) The false chinch-bug, an insect mentioned below, and which, in outward appearance, very much resembles the true chinch-bug, is said to kill them; and two or three lace-wing flies are said to destroy them. The common quail is stated to eat numbers of them, and therefore these birds should be preserved as much as possible, by wheat-growers especially, as the stomachs of some shot in wheat-fields were found to be filled with these destructive pests. The pseudo or false chinch-bug, or insidious flower-bug, above mentioned, has frequently been mistaken for the true chinch, as it resembles it somewhat in shape and size. It is found upon the same flowers and leaves, but the larvæ are of a bright orange color, and not of a vivid red, like those of the true chinch; and the perfect insect is also smaller, of a broader form, and marked in a different manner. It is probably highly beneficial, by feeding on other insects. Two European species, *A. minutus* and *memorum*, have been well known as preying on plant-lice. The perfect insects inhabit flowers, and the immature ones wander about in search of plant-lice, which they transfix with their sharp beaks, and suck out the juices. Our native species (*Anthocoris insidiosus*) most probably also feeds on the true chinch and



the grape-leaf gall-louse, (*Pemphigus vitifoliae*.) This insect is extremely common in Maryland on the ox-eye daisy, and not unfrequently upon the fruit of raspberries and blackberries, and is one of the insects which produce such a disagreeable chinchy taste when taken into the mouth with the fruit.

Many remedies have been recommended or suggested for the destruction of chinch-bugs, or to drive them away; among the rest, lime is said by some farmers to have been used with good effect, when dusted over the plants when the insects first appear. Other farmers, however, assert that they have used lime, and have derived no benefit from it. Burning the ground before plowing, or after the infested crops have been removed, has also been recommended, and all the chaff and refuse remaining after winnowing grain ought likewise to be burnt. If small piles of refuse or trash be heaped up here and there in the fields, and, after cold weather sets in and these heaps are dry enough to burn, they are fired on a chilly morning, all the insects sheltering under them will be burned and destroyed, as the chinch-bugs are very apt to take shelter under such heaps from the inclemency of the weather. From other farmers we have received reports as to the efficacy of gas-lime in driving the insects away from growing crops, but they say nothing about the benefit or injury the plants themselves receive from such an application.

In a former report, Mr. Laughlin states that although he used lime with no effect whatever, yet "the application of salt to only one acre of wheat, in the proportion of one bushel to the acre, drove all the insects away, and saved the crop on that single acre, while the rest of the ten acres planted was destroyed by the chinch-bugs." Salt, however, when applied too freely, would be very apt to injure the plants themselves. Mr. Laughlin also states that he was satisfied that if he had sown $1\frac{1}{2}$ bushels of rock-salt (not more) to the acre, by the first of June, or ten to fourteen days sooner, he would have saved his whole crop; and, at the same time, he recommends a spoonful of salt to be put to each hill of maize. Some farmers at the West tried the experiment of sowing Hungarian grass with wheat and other grains, and state that their crops have been saved by the chinch-bugs preferring the tender grass and leaving the grain uninjured. Open trenches or ditches, dug around the fields overrun with chinch-bugs, have been highly recommended as preventing the migrations of these insects from an infested field to another uninfested field in the immediate vicinity. These trenches should be dug a foot or more in depth, having a sloping side toward the infested field and a perfectly perpendicular side toward the field intended to be protected, so that the insects could readily crawl into the trench from the field already injured, and, not being able to crawl up the perpendicular side toward the uninjured field, would fall back into the trench, and could be destroyed by lime, or gathered up and destroyed by fire or some other means. It would even be better if the perpendicular side of the trench should slope somewhat inward at the bottom, so as to make its upper edge project a few inches over the trench, and then it would be almost impossible for any chinch-bugs to ascend and crawl into the next field.

Pine or fence boards set lengthwise and close together, or the ends even a little overlapping each other and sunk a little in the earth, so that the bugs cannot creep through the crevices made by the joining of the boards or underneath, and the upper edge of this fence kept moist with coal-tar, will also prevent the migration of the chinch-bug from field to field, as they are unable to cross the tarred line, and fall to the

ground. Insects of this order are not very apt to be killed by applications of such poisonous substances as Paris green or hellebore to the outer surface of plants, as has been recommended for the destruction of the Colorado bug or potato-beetle, as the chinch-bugs do not eat the whole substance of the leaf, like the real beetles, but merely insinuate their piercer or sucker through the outer cuticle into the parenchyma, or inner fleshy substance of the leaf and stem, in order to suck up the sap, leaving the outer surface on which the poison is deposited almost undisturbed.

TWO METHODS OF DESTROYING THE COLORADO POTATO-BUG.—The Department of Agriculture has received, through the President of the United States, a communication addressed to the Executive by two French gentlemen of Point-a-Pitre, Guadaloupe, West Indies—Count A. d'Adliemar and G. Barret de Nazaris—announcing their discovery of two effectual methods of destroying the Colorado potato-bug, which they freely offer to the people of the United States. The first of these remedies is as follows: Soak guano in lime-water, and apply the liquid to the roots of the potato-vines. The second: Take lime-water, salted to two arcometric degrees, and in it dissolve two kilograms (say five pounds) of common sulphide of potassium to each cubic meter (say 264 gallons) of water. Pour this mixture into the concavities of the ground all around the potato-vines. This last remedy is said to have been used in France with excellent effect for destroying the *Phylloxera* upon grape-vines.

The remedies as above proposed for the extermination of the Colorado potato-beetle have evidently been written by theorists who know nothing whatever of the habits of the insect, and under the false supposition that it injures the roots, like the root-louse or *Phylloxera* in France, which, being found on the roots under the earth, may be destroyed by liquid solutions or mixtures which soak into the ground. Our *Doryphora*, however, does not attack the roots at all, but contents itself with the foliage.

MICROSCOPIC OBSERVATIONS.

BY THOMAS TAYLOR, MICROSCOPIST.

In accordance with instructions of the Commissioner of Agriculture, I attended the annual meeting of the New Jersey Cranberry Association, which met at the Tom's River, New Jersey, on the 9th of September last. It was composed of a large and highly intelligent class of gentlemen, nearly all of whom are engaged directly in cranberry culture. The subject which principally engaged the attention of the members was the cranberry-rot and its remedy. The effects of manuring, irrigating, salting, sulphuring, liming with gypsum and caustic lime, sanding, and the use of phosphates were all discussed, and various opinions expressed as to their respective merits.

The secretary of the society, Mr. A. J. Rider, stated that he had tried guano, phosphates, lime, plaster, salt, and sand, all of which had proved beneficial, with the exception of salt. The methods of application have much to do with the substances employed. Weak solutions of manurial compounds will prove of more value, when frequently applied, than those highly concentrated. Mr. D. R. Gowdy said that he had used no fertilizer until the present year, when he spread 600 pounds of guano on five acres of bog land, but discontinued the use because he noticed that

the vines were dying where the buckets containing the guano had been placed. Mr. Gowdy thought that he should pick 1,000 bushels this year where he obtained only 193 last year. Several members stated that the application of plaster, phosphates, guano, and lime has proved to be of great value in increasing the growth of new roots and vines, but that it is conceded by all intelligent cranberry-growers that an application of sand every four years to the extent of at least one inch in depth is much better. The object of sanding should not be misunderstood. It is simply to increase the growth of rootlets, branches, and leaves. It, therefore, increases the necessity for the application of available plant-food, which should be experimentally and intelligently applied.

It has been shown by an analysis made in the laboratory of this Department (see page 125 monthly report for February and March, 1875) that the cranberry contains insoluble silicates, lime, magnesia, peroxide of iron, phosphoric and sulphuric acids, chlorine, potassa, and soda. The new roots absorb these substances from the earth and the leaves elaborate them into the proper food for the growth of the berries.

Since making my investigations on the cranberry plantations of New Jersey and Cape Cod, I am convinced that the scald and rot, so called, of the berry may arise from dissimilar causes, although chemically considered they are practically the same, viz, the conversion of their starch into grape-sugar, a fermentable substance forming a nidus for the growth of fungi. All fruits have a tendency to decay more or less while growing under unfavorable conditions, not only before but after they are considerably advanced in size, and especially while they contain their minimum of starch. In this condition, particularly during rainy seasons, the fruit contains its greatest percentage of gum, organic acids, and water. The fruit, under these conditions and high temperature, frequently ferments or rots. In such cases I have always been able to detect the mycelium of fungi within the berries. In the early stages of the rot the mycelium appears first on the inner surface of the skin. When a portion of the rotting pulp is viewed under a power of about 300 diameters its many ramifications are easily seen. I have frequently shown this fact to the cranberry-growers by the use of the microscope.

At the request of this Department, Mr. A. J. Rider, secretary of the association, in August last forwarded sixteen samples of peaty matter taken from healthy and unhealthy cranberry-plantations of New Jersey. One-half of the samples consisted of sub-soil; the others of top-soil. Twelve were from the unhealthy and four from the healthy bogs. Solutions of all were made in pure water, and allowed to remain in a room at a temperature of about 75° Fahrenheit for twelve days to settle and give time for fermentation, the object being to ascertain the presence of albuminoids in the solution, or solids present. The healthy specimens were taken from the bogs of the Rev. Isaac Todd and Mr. Newman, whose plantations are noted for their healthy condition, and on which rot has not been known for the last ten years. These gave perfectly pure solutions. The peaty matters of these bogs are composed chiefly of small twigs and leaves, and are well rotted. Their solutions are colorless, and no infusorial or fungous scum appears on their surface. A specimen solution of Mr. Todd's peat has been in my possession over twelve months. It contains about half a pound of peat to a pint of water, but has given no indications of mold on its surface during all this period, while a solution of peat from an unhealthy bog standing by the side of it during the same time remained highly colored, and a thick scum appeared on its surface. This scum was composed of infusorial and fungous mycelium and spores. The twelve solutions from the un-

healthy bog-peat were more or less colored, some of them being thickish and soluble. These exhibited slight fermentation after standing twelve days. In fifteen days swarms of infusorials appeared in the surface-scum when viewed by the microscope.

In my first report, published in the monthly for October, 1874, I showed that the principal cause of cranberry-rot was improper cultivation. In many cases the vines have been planted in fermenting peat-soil; but it has also been shown that high temperatures and great drought produce the same results, as was the case near Pemberton last year. There are many seeming contradictions as to the cause of cranberry-rot, and some growers have lost all confidence in human judgment on the subject, and are disposed to leave the cultivation of the cranberry to nature. The following will illustrate some of the principal facts which have led to great confusion of ideas among growers: H has a bog always covered with water; his berries never rot. B, his brother, has planted a bog, similar as to quantity of water, with vines selected from the plantation of H. After copious rains and hot suns the berries of B rot while those of H remain in perfect condition, although growing apparently under the same general conditions. This seems inexplicable. But the bog of H is surrounded by high bluffs which pour out a never-ceasing supply of comparatively cold water. The roots are kept always cool, but not too cold for growth. The fruit is longer in maturing than that of some of the neighboring plantations differently situated, but the berries of H ultimately become fully matured, very firm, and highly charged with starch. B has no high bluffs to supply him with cool water. On the contrary, his bog lies in an open plain, subject to the effects of a scorching sun. The temperature of the water becomes too high for healthy growth, and his berries consequently succumb to these unfavorable conditions.

There is conclusive evidence that matured berries will grow only on matured vines. It is the experience of all growers that the berries of vines two or three years old, however large and beautiful, are not good keepers; while the same vines when they become aged, under ordinarily favorable circumstances, will produce good-keeping fruit. As a general rule, it is found that the old healthy bogs produce the most reliable fruit.

When at Pemberton last year I expressed the opinion that the cranberries growing in that neighborhood rotted from drought and high temperature. Nearly all of the soil in that district seemed to be free from bad odors; but, under converse conditions this year, rot of the berry occurred on the same plantations. One of the most intelligent growers of Pemberton informed me that the rot commenced immediately after the heavy rains of August.

The cranberry-plant is very hardy; its leaves are glossy and strongly resist climatic changes. Its wood has a solid texture, and withstands very cold weather, although it may be killed by a severe frost. The roots, when planted in pure sand, or when growing in gray moss, have a translucent, whitish appearance, and are not easily broken. Unhealthy roots are of a dark brown or blackish color, and may be ground into a pulp between the fingers. The blossoms and berries are, however, very much subject to blight or rot. When we take into consideration the large amount of water contained in the best varieties or the cranberry, it need not be surprising that inferior kinds should succumb under even slightly unfavorable conditions. The following are the results of an analysis, made at the Department, of a dark-colored and

hardy variety of the cranberry, taken from the plantation of C. G. and E. W. Crane, of New Jersey, known as the Cape Cod Early Black-Bell:

Moisture	86.50
Organic matter	13.25
Inorganic matter	25

The common potato, which is a very succulent tuber, has only 74 per cent. of water, and with that amount is very liable, to ferment when subjected to a moist atmosphere followed by high temperature.

When the cranberry is well formed and firm in texture, its ripening should not be hastened. Sudden transformations of conditions should be avoided, so as to prevent a renewal of root and wood growth when it is desirable to bring the berry to maturity. My advice to the members of the association is the same as last year, namely, irrigate, sand, and lime all unhealthy plantations, and be more careful in the selection of new bog-land for cranberry-plantations.

The following letter from Mr. Bishop, one of the most noted cranberry-growers of New Jersey, will be read with pleasure by all interested in cranberry culture:

MANAHAWKIN, OCEAN COUNTY, NEW JERSEY, *September 30, 1875.*

Hon. FREDERICK WATTS,
Commissioner of Agriculture:

SIR: In answer to your inquiries in regard to the cranberry-rot on my plantations this season, I would say that on the large one, called Oxyecoccus, visited last year by Mr. Thomas Taylor, microscopist of your Department, I shall have a larger, perhaps much larger, crop of very fine fruit than I had the year he visited it. I have found soft berries on several small spots of the plantation, but not in sufficient quantity to cause any serious fears of permanent injury. We had never noticed or thought anything about soft berries at Manahawkin until last season, but the great interest now felt in this matter has caused us to inquire carefully into the past history of wild and cultivated bogs in our vicinity. We have recalled to memory two or three small spots of bog on this plantation which produced a few quarts each of soft fruit several years since, yet on those spots we have had fine fruit continually since that time.

Mr. Charles Hinchman, of Taunton, was here about the first of the month, while I was absent. His experience is large, and his judgment so good, that I always listen with interest to what he says about cranberry-culture. When he saw some berries on young vines growing on the hot dry sand which covered the peat, he said that the softness of the berries was not occasioned by the causes which usually produce the "rot," but was the result of the intense heat of the sun. On all my finest-producing beds of old vines, which have yielded hard fruit for years past, I remember that the vines when young produce soft berries, but after they became well matured and matted—say, when four or five years old—the fruit yielded was of good quality, and has continued to be so to the present time.

While I cannot help feeling that you have found the main cause of the "rot," I am still forced to believe that much of the soft fruit found on very young vines is the result of the very hot rays of the sun and moisture, independent of fermentation of imperfectly-drained bog-bottoms. We are harvesting at present a very fine crop of cranberries. The fruit is larger, more highly colored, and more abundant than that of last year, despite the most unfavorable season for their cultivation that we have ever known. Cranberries taken from the vines, and left for two or three days on the black peat along the ditches, would in a short time become thoroughly baked like apples that have been cooked in an oven.

FACTS FROM VARIOUS SOURCES.

AGRICULTURAL STATISTICS OF INDIA.—Mr. C. R. Markham, a prominent Anglo-Indian statistician, in a late paper before the British Society of Arts, states that in oriental countries the necessity for agricultural knowledge has been recognized from time immemorial, and statistics have been gathered, but unfortunately the records have not been

carefully preserved. Attention to this vital point has marked all periods of good administration of government, and its neglect has ever been the concomitant of social disaster and misery. In India the reign of Akbar still looms up amid the imperfect memorials of history as an era of great prosperity, in which the interests of agriculture were brought within regulations devised by profound wisdom. British rule has embraced the principles of native legislation, and has adapted itself to the agricultural problem in India with remarkable sagacity. The relations of village communities, of land tenures, and of other social interests have been settled into a regular system of common and statute law and of recognized local customs, which have given stability to the productive system of that vast empire. Special attention is given to agricultural statistics, upon the correctness of which the welfare of the people directly depends. The variation of local institutions and customs renders it difficult to reduce such statistics to a uniform system, but the facts are laboriously gathered, and the best practicable use made of them. As an illustration of these local differences, it is stated that in Bombay the land-revenue amounts to 3s. 4d. per head; in the northwest provinces it is 2s. 5d.; in the Punjab, 2s.; in Madras, 2s. 6d.; in Bengal and Assam it is only 1s. 1½d.

To give a more graphic idea of Indian social life, Mr. Markham selects a village in the Bombay presidency as a type. The village system is here in better preservation, and records of statistical inquiry at three different periods are more numerous and accessible. The Bombay agriculturist is a lean man, with prominent muscles, small hands and feet, eyes full and black, cheek bones high, and teeth stained with betel. His clothing is by no means abundant. He is frugal and provident, devoted to his children, more intelligent than European laborers in general, but cunning and false. He is one of a population of 600 to 1,000, cultivating an average tract of 4,000 acres, and lives in a village of 150 to 200 houses of sun-dried brick, with terraced roofs and open porticoes, and a few small, dark, interior rooms. The furniture consists of a few copper cooking-utensils, about twenty earthen pots for the storage of rice or grain, a kneading-trough, and a few other very elementary articles of furniture, the whole not worth over \$10. A yoke of oxen and a plow of cross-sticks, without plowshare, a rough wooden cart with solid wheels, a harrow with wooden teeth, and a few other rude implements constitute his stock in trade.

The arable land is classed as unirrigated, irrigated, and garden land. Two crops are generally grown; for instance, spiked millet, sown in June or July and harvested in October or November, is immediately followed by wheat or other cereals, to be harvested in January or February. The land is plowed only every other year, and that only to the depth of a span, but it is frequently subjected to the drag-hoe, first lengthwise and then across, in order to kill the weeds. The grain is trodden out by bullocks, the ears having been separated from the stalk, and winnowed by being poured from a vessel held several feet from the ground in a strong breeze. The agricultural laborer requires but little food, and that very inexpensive. A cake of millet, a few greens, pods, or fruits cut in pieces, boiled or fried, and a little coarse porridge are sufficient for his sustenance. His labors are diversified by pilgrimages to temples and holidays. In October he paints his oxen with fantastic colors, dresses them up as deities, feeds them with sugar, and then falls down before them in abject worship.

The statistics of agriculture are collected through a peculiar local government. The *barra baloota*, which is a board of twelve village

fathers, including the *patel*, or head of the village, the *kulkarmi*, or accountant, the *sutar*, or carpenter, the *lohar*, or smith, the *chamhar*, or shoemaker, &c. These officials receive for their services a regular allowance in money or produce, and do the work of their respective handicrafts without charge to the villager, who only furnishes the material to be manufactured. As their perquisites consist, in part, of certain proportions of the growing crops, they necessarily inform themselves of the extent and character of those crops. This social organization then furnishes, ready to hand, the machinery for the collection of agricultural statistics. The original records are kept in the vernacular language, abstracts of which are translated into English for the information of the Anglo-Indian government.

The statistical unit of land is approximately the smallest extent that can be plowed with two bullocks and tilled by the cultivator or breadwinner for the support of his family. In the Bombay "survey" the "numbers" or fields of a village, varying in size from what a pair of bullocks can plow to double that quantity, are carefully measured, with the necessary "checks" to insure accuracy. Lands held by different tenures and for different kinds of culture, such as wet, dry, or garden land, are treated as separate "numbers." The "checks" are taken by a European assistant, and the errors of native measurement are not allowed to exceed two per cent. After measurement the "numbers" are classified, for assessment purposes, according to the productive capacity of soil, into three kinds—black, brown, and yellow or gravelly. They are gauged again according to their depth, on which depends their ability to imbibe and retain moisture. The presence of "faults," or deteriorating ingredients, such as nodules of limestone, sand, want of cohesion, roughness of surface, &c., is also noted, as well as facilities for irrigation, distance from market, &c.

At intervals of several years a regular return is made for each village of the above statistics, but every year there is a special return showing the number of acres under twenty-eight of the principal crops, with the number left fallow, besides prices and rates of wages and village population. The village accounts of each district, called a *taluk*, are consolidated; the *taluk* accounts are aggregated in those of a *collectorate*, and these into a whole presidency. This is the normal system of the Bombay presidency, which is the type of Indian social organization. In other presidencies more or less important modifications of the system are extant. The records of the Madras presidency, between 1810 and 1825, are especially full and complete. The present measuring system is more accurate than in Bombay, while the classification of soils is preserved upon similar principles. Annual returns are made of the area of cultivable and uncultivable land in each village, of irrigated and dry crops, including specially sugar, cotton, and indigo, with prices and rates of wages; but the acreage in millets, pulses, and some other crops is not given in Bombay, Punjaub, Oudh, &c. There is also in Madras a quinquennial census of population, live stock, implements, &c., such items as are furnished in Bombay at each periodical "settlement." The records of the northwest provinces have not been kept up to date, though they are quite full for the period represented. The central government has taken measures for the completion of these records. The Punjaub records, embracing accurate maps and plats of survey, are especially valuable, and special information is given in regard to classification of soils, rotation of crops, the number of plows, carts, and cattle, together with the population, prices, and rates of wages. In the lower provinces of Bengal the native machinery for the collection of such statistics has

been mostly superseded by other arrangements, and the information is but partially and superficially acquired by other methods.

An extension and perfection of the system of irrigation-statistics is demanded. The present returns give the area under irrigation, the classification of soils, and the rain-fall. It is proposed to bring these side by side with the village statistics and develop their close relationship. The sources of water-supply and the depth of wells are points upon which regular and definite information is solicited. The modifying influence of irrigation upon cultivation is illustrated by the fact that in a district of Rohilkund the area under well-irrigation increased between 1835 and the last "settlement" from 4,991 acres to 202,505. The expediency of introducing canal-irrigation in some districts rests on considerations which can be made obvious only by a more thorough statistical inquiry. In the open country of Mysore, for instance, the presence of population depends mostly upon works of irrigation. The tanks have been extended over about 60 per cent. of the country by the patient industry of the people.

The question of fuel and timber supply is also assuming a very serious aspect in India. Forest preservation and restoration have been commenced, but not before the pressing necessity of this movement has become generally apparent. In the "ceded district" cart-wheels are made of stone on account of the scarcity of wood. Other districts find their agricultural operations greatly crippled by the same scarcity. The destruction of forests has greatly curtailed the production of leaf and other forest manures, so that in many parts of India the land is permanently exhausted. Leaves have also been largely used for live stock food, and their growing scarcity shortens the production of animal-manure. The influence of forest-denudation upon the deposition of atmospheric moisture also needs the collection of facts as a basis for the study of distribution of rain. A survey of reserved and communal forests has just been commenced in Northern India, but has not yet been sanctioned in Madras. Information upon these points, so vital to the agricultural character of the Anglo-Indian empire, is very superficial, and presented in a mutilated and fragmentary shape.

The important question of internal communications also demands both general and special statistical inquiry. It is certain that even in famine years the crops of India would be ample for home consumption if the means of intercommunication existed by which the surplus produce of the productive districts could be brought in contact with the scarcity of the deficient ones. The question of food-supply, then, resolves itself into one of distribution. The prices of grain, even in famine districts, precludes its transportation by ordinary methods for any material distances. How to secure such a distribution, then, depends upon a thorough induction of original facts and a comprehensive study of their significance, which demands a thorough system of statistics. The administration has become convinced of the necessity of raising the standard of intelligence among the native officials through whom these fundamental facts are gathered.

The leading original purpose of the government in compiling these statistics was to constitute a basis for the intelligent assessment of taxes. It has been found that, in many cases, these are too light, while in others they press with crushing weight upon the poor cultivator, absorbing nearly all his annual earnings. In some districts the squalid poverty of the farmer is beyond expression. He is the slave of the usurer and of the government, and lives on the verge of starvation. Improved methods of inquiry and a more intelligent study of facts have already discovered

some of these gross inequalities of administration and have suggested some means of partial alleviation. The gravest public interests imperatively demand the extension of the system of statistics and more effective devices for relief of the evils of the Indian social state. It is evident that disease and crime have been greatly increased by lack of subsistence. The moral discipline and well-being of society, then, demand that this great interest should be fostered, and that more effective measures be taken, both to ascertain the needs of Indian society and to devise measures to meet their demands.

In looking to foreign systems of statistics, Mr. Markham finds but little to approve of in the methods extant in England and Ireland, which are too dry and abstract, and without commentaries giving them a practical value. He finds his ideal better realized in the statistical system of the United States Department of Agriculture, with its organization of county boards of correspondents and its monthly returns from all parts of the country, regularly tabulated and interpreted by careful study. In France, agricultural returns are most voluminous, and are now being codified in valuable general treatises. Holland has of late directed special inquiries in regard to her colonial possessions in the East Indies, of which compilations with graphic illustrations have been prepared. These models Mr. Markham proposes for imitation to the Anglo-Indian government.

ENGLISH "AGRICULTURAL HOLDINGS" ACT.—This act, embodying reluctant concessions from the land-holding to the land-cultivating interest, applies only to England, and will be in force on and after February 14, 1876. After carefully defining the terms tenant, landlord, holding, &c., it provides that the tenant shall hereafter be entitled to compensation for three classes of improvements placed upon land, viz: 1. Drainage, erection or enlargement of buildings, permanent pasture, osier-beds, water-meadows or irrigation-works, making gardens, making or improving roads or bridges, making or improving water-courses, wells, &c., making fences, planting hops, planting orchards, reclaiming waste-land and warping of land; 2, boning land with undissolved bones, chalking, clay-burning, claying, liming, and marling; 3, purchased manure, artificial or other, consumption on the land of cake or other feed not produced on it. The first class shall be considered unexhausted for twenty years, the second seven, and the third two years after the termination of the lease. The amount of compensation for improvements of the first class is to be determined by the sum actually laid out, deducting a proportionate part for the continuance of the tenancy after the year in which the improvement was made; but if the landlord was not absolute owner of the holding at the time the improvement was made, the compensation shall represent only the actual addition to the letting-value of the land. For an improvement of the second class the compensation will be the actual outlay, deducting a sum proportionate to the time the tenancy endures after the year in which the improvement was placed upon the land. The compensation for a third-class improvement shall be the actual value thereof, at the termination of the tenancy, to an incoming tenant.

Improvements of the first class must be made with the full consent of the landlord, given in writing, and from the amount allowed shall be deducted what is necessary to put the premises in tenantable repair. Notice in writing must be given to the landlord from seven to forty-two days before executing an improvement of the second class. A claim for such improvement shall not be valid if executed after the tenant has received notice to quit, unless with the previous written consent of the

landlord, nor after an exhaustive crop, such as hay, potatoes, or corn, shall have been taken from the land. Breaches of covenant or waste, by either tenant or landlord, will subject their claims for improvement, or in reduction of said claim, to a reduction proportioned to the extent of the injury caused. Landlords' claims for waste committed more than four years before the determination of tenancy are barred.

An outgoing tenant must, at least one month before the expiration of his lease, give notice in writing to the landlord of his intention to claim compensation for improvements, and the landlord must give counter-notice within fourteen days of the same period. Such notice and counter-notice must set forth the particulars of each claim. A controversy between tenant and landlord shall be decided by a joint referee, or by two referees and an umpire, one referee to be selected by each party, and the umpire by the referees. Several provisions regulate the course of proceedings in case of the failure of the referees through death, disability, &c. Either party, on proper notice, may require the appointment of the umpire by the inclosure commissioners or by the county court. The appointment of a person as referee cannot be revoked. The referees and umpire may proceed to adjudicate the case after due notice to the parties, whether they are present or not. The award must be in writing, and duly signed by referees and umpire. A single referee must make his award within twenty-eight days after his appointment. Where there are two referees, the award must be made within twenty-eight days of the last appointment, but by consent of both parties it may be delayed to forty-nine days. Failure to do so within the time specified renders their appointment void. The umpire is allowed twenty-eight days, or such extended time as the registrar of the county court shall fix.

The award must state the time of exhaustion of improvements, and specify the separate acts and things for which compensation is awarded, and the amount awarded for each. The costs of the investigation shall be divided between the parties in a proportion to be determined by the referees and umpire, but shall be subject to taxation in the county court. The award must specify the day of payment, which shall be at least a month after its rendition. Either party, within seven days, may appeal to the county court to set aside the award, on the ground, 1, that the award is invalid; 2, that the compensation has been awarded, or that breaches of covenant or waste have been committed; 3, that compensation has not been awarded for improvements, waste, &c. The decision of the judge shall be final, save that, at the request of either party, he shall state a special case on a question of law to the high court of justice, whose decision shall be final, and the county court shall adjudicate the case in accordance therewith.

Other provisions regulate the proceedings in case the landlord is under age, of unsound mind, a married woman, &c. The county court shall regulate the cost of its own proceedings, but the lord chancellor shall from time to time prescribe a scale of costs.

AGRICULTURAL STATISTICS OF IRELAND.—The annual abstracts of inquiries made under the authority of the registrar-general of Ireland for 1875 have been published. These inquiries were made by 3,800 men, selected from the royal Irish constabulary and metropolitan police. The replies to those inquiries were entirely voluntary, no legal penalties being provided in case of refusal; yet of over 600,000 landholders only one refused compliance.

The total acreage in all the crops during 1874 was 5,331,655, an in-

crease over 1874 of 62,651 acres. Of the cereal crops, 161,321 acres were in wheat, a decrease of 26,657 acres; oats, 1,499,371 acres, an increase of 18,474; barley, 233,747 acres, an increase of 22,139; bere and rye, 10,312 acres, an increase of 411; pease and beans, 11,647 acres, an increase of 256; net increase in cereals, 14,623 acres. Of green crops, 900,277 acres were in potatoes, an increase of 7,852; 332,783 acres were in turnips, a decrease of 805; 43,274 acres were in mangel-wurzel and beet-root, an increase of 4,947; 34,874 acres were in cabbage, an increase of 1,690; 37,184 acres were in carrots, parsnips, &c., an increase of 2,490; 21,694 acres were in vetches and rape, an increase of 269; net increase in green crops, 16,443 acres. Meadow and clover crops covered 1,943,923 acres, an increase of 37,244. In flax there were 101,248 acres, a decrease of 5,659. The total decrease in wheat, flax, and turnips, amounting to 33,121 acres, deducted from the total increase of all other crops, amounting to 95,772 acres, leaves a net increase of 62,651 acres.

The wheat acreage has declined each year but one, 1874, during the last five years, being 244,541 acres in 1871, and 161,321 in 1875. The oats acreage showed an increase in 1875, but a decrease during the previous years, being 1,636,136 in 1871, 1,480,897 in 1874, and 1,499,371 in 1875. During the same period the barley acreage varied from 211,608 in 1874 to 233,747 in 1875; bere and rye from 9,924 acres in 1873 to 11,555 in 1871; beans and pease, from 10,913 acres in 1871 to 12,873 acres in 1873; potatoes fell from 1,053,431 acres in 1871 to 89,425 acres in 1874, but rose during 1875 to 900,277 acres; turnip acreage was highest in 1873—347,848 acres, and lowest in 1841—327,035 acres; mangel-wurzel and beet-root have gradually risen from 31,921 acres in 1871 to 34,874 acres in 1875; cabbage has varied between 28,115 acres in 1873 and 39,452 in 1872; carrots, parsnips, and other green crops have gradually increased from 29,869 acres in 1871 to 37,184 acres in 1875; vetches and rape had a maximum of 31,422 acres in 1871, and a minimum of 21,425 in 1874; flax has declined from 156,670 acres in 1871 to 101,248 acres in 1875; meadow and clover land has increased, with a little fluctuation, from 1,829,044 acres in 1871 to 1,943,922 acres in 1875.

The live-stock returns show an increase of 304 horses and mules in 1875, as compared with 1874; a decrease of 688 asses; a decrease of 12,766 cattle; a decrease of 193,540 sheep; an increase of 150,049 pigs; an increase of 12,141 goats; a decrease of 12,607 poultry. Of horses and mules, during the last eleven years, the number has gradually declined, with some fluctuations, from 568,142 in 1865 to 547,676 in 1875. Asses have increased during the same period from 168,009 to 179,742; the highest number, 181,351, being in 1872. Cattle have gradually gone up from 3,497,548 to 4,111,990, the aggregates of 1874 being a few thousand greater than those of the current year. Sheep were at their minimum, 3,694,356, in 1865; and at their maximum, 4,901,496, in 1868, declining to 4,248,158 in 1875. Pigs were in smallest number, 869,578, in 1868; and in largest number, 1,621,423, in 1871, declining to 1,249,235 in 1875. Goats have regularly increased from 171,207 in 1865 to 263,894 in 1875. Poultry has increased in the same years from 10,681,955 to 12,055,768.

Of stallions, in 1875 the number of thoroughbred was 403, of which 254 were native-born and 149 imported. The largest number of thoroughbred sires, 145, was in Munster; 134 in Leinster, 78 in Ulster, and 46 in Connaught. Of 542 half-breeds, 530 were home-born and 12 imported. Of 206 Clydesdale stallions, 161 were bred in Ireland and 45 imported. Of 126 Suffolk Punch stallions, 100 are natives and 26 imported. Of

133 draught-stallions, only 4 were imported. The grand total, embracing a few not enumerated above, was 1,476; of which 1,228 were home-bred and 248 imported. Leinster reported 456 of these, Munster 438, Ulster 393, and Connaught 189.

RECLAMATION OF THE ZUYDER-ZEE.—The reclamation of the Zuyder-Zee has long been contemplated by the Dutch people and government, in whom the hereditary instinct of conquest from the sea still survives. At the late session of the legislative body an appropriation was made for soundage and survey. It is now proposed to reclaim about half the surface of the inlet designated as the Zuyder-Zee by some geographers, or the whole of it according to others. An enormous dike, 40 kilometers or 24.85 miles long, is to be constructed from Kampen, near the mouth of the Yssel River, on the eastern shore, to Enkhuizel, on the western shore. The dike is to be 23 feet above the water-surface, with an upper parapet $16\frac{1}{2}$ feet high and 10 feet wide on the top, sloping down to an exterior berme or bench 16 feet wide and $6\frac{1}{2}$ feet above the water. An interior berme will serve first as a tow-path to a canal, and afterward as a track for a railway after the reclamation shall have been finished.

The dike will cost 53,000,000 francs, or over \$10,500,000, and the entire expense of the whole work is estimated at 180,000,000 florins, or \$87,120,000, allowing a value of one-tenth of a British pound sterling for each florin. The area embraced in the present project is about 481,864 acres, of which 46,950 acres will be needed for highways, canals, basins, &c. The remainder, 434,914 acres, will represent the amount of land disposable at a cost of about \$200 per acre. Last December the government sold 875 acres of land reclaimed from Wykermeer, at an average of \$1,051.09 per acre. At this rate per acre the national treasury would receive a prompt re-imbursement of the expense with a surplus of 400 per cent., or a clear profit of over \$370,000,000. This, however, is somewhat excessive, but the surplus could scarcely be less than \$200,000,000.

There is a difference of opinion as to the time necessary to complete the work, the estimates varying from twelve to sixteen years. The average depth of the Zuyder-Zee is stated at $4\frac{1}{2}$ meters, or about $14\frac{3}{4}$ feet, and the total volume of water to be drained at over 7,500,000,000 cubic yards. A steam-machinery of less than 10,000 horse-power could expel the water within the embankments within two years.

The new province of Zuyder-Zee will be the tenth province of the kingdom, and will cover an area of seven hundred and fifty-three square miles, a little less than two average counties of Ohio. It will constitute about one-eighteenth of the surface of Holland. It will be a welcome addition to the productive area of this industrious kingdom, and will add greatly to the national wealth and resources.

AGRICULTURAL STATISTICS OF BRITISH COLONIES.—The following are from official statistics of British colonies, not including those of North and South America :

New South Wales: Population, 560,275; area, 207,000,000 English acres; total acreage under crops in 1873-74, 456,825, viz: In wheat, 166,647; in barley and bere, 3,559; in oats, 16,173; in rye, 1,234; in maize, 116,141; in other grains, 276; total cereals, 304,030; in potatoes, 14,212; in sugar-cane, 6,671; in tobacco, 200; in vineyards, 4,525; in grass for hay production, 70,700. There was an increase of the total acreage over the previous year, and in oats, sugar-cane, vineyards, and grass; all others show a decrease.

Victoria: Population, 790,492; area, 55,572,000 acres; total acreage under crops in 1873-'74, 964,996, viz: In wheat, 349,976; in barley and bere, 25,333; in oats, 110,991; in rye, 722; in pease and beans, 14,229; in maize, 1,959; total in cereals, 503,210; in potatoes, 38,349; in tobacco, 583; in vineyards, 5,222; in bare fallow, 66,989; in grass for hay, 115,672. The total acreage in cultivation shows an increase over the previous year, as well as wheat, barley, rye, maize, beans and pease, and tobacco; the others show a decrease.

South Australia: Population, 198,257; area, 245,330,000 acres; total acreage under crops in 1873-'74, 1,225,073, viz: In wheat, 784,784; in barley and bere, 11,827; oats, 2,011; pease and beans, 4,295; total cereals, 802,917; potatoes, 3,813; vineyards, 5,217; bare fallow, 235,210; grass for hay, 142,167. There was an increase over the previous year in total acreage, wheat, and potatoes, bare fallow and grass for hay, and a decline in all the other crops.

West Australia: Population, 25,761; area, 626,111,000 acres; total acreage under crops in 1873, 51,724, viz: Wheat, 25,697; barley and bere, 5,083; oats, 1,474; rye, 1,423; pease and beans, 52; maize, 113; total cereals, 33,842; potatoes, 473; vineyards, 775; grass for hay, millet, and sorghum, 15,941. The total acreage decreased, as also did wheat, oats, and maize; the other crops increased.

Queensland: Population in 1872, 146,690; area, 433,920,000 acres; total acreage in cultivation in 1872, 62,491, viz: Wheat, 3,661; barley and bere, 852; oats, 155; maize, 21,143; other grains, 211; total cereals, 26,022; potatoes, 2,837; cotton, 12,002; sugar-cane, 11,757; tobacco, 52; vineyards, 391; grass for hay, 5,127.

Tasmania: Population, 104,217; area, 16,778,000; total acreage in cultivation in 1873-'74, 324,105, viz: Wheat, 58,610; barley and bere, 6,440; oats, 26,750; pease and beans, 6,272; total cereals, 93,072; potatoes, 7,910; tobacco, 13; bare fallow, 23,360; grass for hay, 26,406. Of these acreages all show a decrease from the previous year, except barley and bere, pease and beans, and potatoes.

New Zealand: Population, 310,437; area, 68,006,000 acres; total acreage under crops in 1872-'73, 1,416,933, viz: Wheat, 131,797; barley and bere, 15,266; oats, 96,958; potatoes, 12,623; bare fallow, 120,032; grass for hay, 33,588.

Natal: Population, 289,773; area, 10,333,000 acres; total acreage under crops in 1872, 165,247, viz: Wheat, 1,903; barley and bere, 163; oats, 3,418; pease and beans, 383; buckwheat, 51; maize, 100,364; other grains, 41,469; total cereals, 147,751; potatoes, 3,123; cotton, 1,420; sugar-cane, 6,702; tobacco, 129.

Cape of Good Hope: Population, 566,158; area, 128,390,000 acres; total acreage under crops in 1865, 460,754, viz: Wheat, 202,257; barley and bere, 34,569; oats, 99,609; rye, 24,330; pease and beans, 8,784; maize, 50,126; total cereals, 419,675; potatoes, 12,845; tobacco, 1,974; vineyards, 16,177.

LOUISIANA SUGAR PRODUCTION.—Mr. L. Bouchereau, in his Louisiana sugar report for 1874-'75, says that the planting season of 1874 was good and the ground unusually well prepared. The early part of the season was favorable to both seed-cane and stubble, but the disastrous floods of April destroyed 24,713 acres of cane, which, at the rate of 1,462 pounds of sugar per acre, (the average yield of the tracts uninjured,) would have added 31,766 hogsheads, equal to 35,329,312 pounds of sugar, besides 3,209,376 gallons of molasses. The next six months with the exception of the first half of July, were very dry, and the

grinding season found the planters with short supplies of water. The State election disturbed the labor market and delayed the grinding operations until in November, when dry freezing-weather destroyed the value of the cane standing. The quantity of seed-cane planted for 1875 was also quite small. The total loss from flood and frost is estimated at 50,000 hogsheads of sugar.

The "Robert Diffusion" process of sugar-manufacture has been subjected to scientific experiment, and has shown such satisfactory results that a large factory upon this principle has been started on the Louisa plantation in Saint Charles Parish. The company propose to purchase cane of the small planters at fair prices, and thus save them the outlay for machinery. This will bring into cultivation a large area of abandoned lands by men of limited capital, who will thus be enabled to concentrate their energies upon cultivation. The number of independent factories is expected to increase rapidly.

Among the reports of special culture is that of Mr. L. A. Bringier, of Ascension Parish, who from 236 acres of cane produced 482,000 pounds of first and second sugars and 28,348 gallons of molasses, an average of nearly 2,042 pounds of sugar and 120 gallons of molasses per acre. Of this area 19 acres that had been heavily covered with cow-peas for two years previous to planting, and turned under each year, averaged 4,014 pounds of sugar and 214 gallons of molasses per acre, or double the yield of the land not fertilized.

Mr. James Vignes, of Point Coupee, in 1872, fertilized two and a half acres of very poor land with bagasse at the rate of three or four tons per acre, the ground being plowed to a good depth and the manure harrowed in. Sound seed was planted and carefully covered with the hoe. The cane grew very large and yielded $1\frac{1}{2}$ hogsheads of kettle-sugar per acre. In 1873 the stubble grew almost as large as the original plant, yielding $2\frac{1}{2}$ hogsheads per acre. The yield of 1874 was $1\frac{1}{2}$ hogsheads per acre, and the stubbles in 1875 are still very promising.

Mr. J. B. Sterling, of Point Coupee, after several years' experiment in planting the butts and the tops of the cane separately, has found in every instance that the tops produce a superior cane.

The crop of Louisiana sugar for each of the last ten years is stated as follows: 1865, 18,070 hogsheads; 1866, 41,000 hogsheads; 1867, 37,647 hogsheads; 1868, 84,256 hogsheads; 1869, 87,090 hogsheads; 1870, 144,881 hogsheads; 1871, 128,461 hogsheads; 1872, 108,520 hogsheads; 1873, 89,498 hogsheads; 1874, 116,867 hogsheads.

STOCK-FEEDING OR ARTIFICIAL MANURES.—Mr. Mechi, in a communication to the Mark Lane Express, gives reasons for his preference of stock-raising as the basis of a recuperative farming, using artificial manures merely as an auxiliary. A neglected, poor farm with shallow soil, after draining, should be constantly plowed by steam and covered with the best Peruvian guano and salt, about two hundred weight of each per acre, with, perhaps, a little nitrate of soda and phosphate of lime. This would give a good supply of root-crops and green crops for stock-feeding. These fed on the land with cake, to sheep and cattle under cover, would at once place the land in condition for grain-crops. On heavy land summer folding, and on light land both summer and winter folding, should be practiced. A crop of winter-tares following the steam-plow would keep down the weeds, and, if fed off in spring, would nicely prepare the ground for root-crops. An abundant supply of these being secured, should be fed to stock with grain and cake. The farmer is now measurably independent of artificial fertilizers which cost Mr. Mechi

ten shillings per acre for his whole farm. Their function is to quicken the exhausted forces of vegetation, but their influence is transient and not to be compared with home-manures in permanence. During the last ten years Mr. Mechi has consumed cake, corn, malt-culms, bran, hay, linseed, and Beach's condimental food at a cost averaging sixty-six shillings, or over \$16 per acre in gold at market-prices, besides expense of veterinary and grinding, and yet his balance-sheets show large profits. He has but 6 acres in permanent pasture; 18 acres in clover to be mown for hay; 4 acres in winter-ares; 12 acres in Italian rye-grass; 6 acres in kohlrabi and cabbage; 6 acres in mangel, and 6 acres in white turnips after pease. The first cutting of clover and pasture and part of the rye-grass is made into hay. Six horses consume a portion of the tares, the second growth of clover, and two acres of mangel, besides a considerable portion of the rye-grass, so that the actual area devoted to other farm-animals averages somewhat less than 25 acres. The manure produced by feeding the root-crops of these 25 acres to animals under cover, besides £577 per annum in purchased food, aided by the horse-manure, house-slops, &c., makes great crops from the whole farm of 175 acres. The small acreage in green and root crops is made to go a great way by the shelter afforded the animal, which greatly lessens the draught upon its vital energies and requires a smaller amount of food in order to be kept in good condition.

OUR CHEESE INTEREST.—The associated effort of American dairy-men to elevate the character of their industry has met with marked success. This effort has been directed, first, to improvements in production, and, secondly, to increased facilities for marketing. The high quality of the product and its popularity in foreign markets shows the success of the first point in the enterprise. The marketing of American cheese has been reduced to a regular system. In New York, before the war, a dealer would contract for a season's manufacture upon terms which would allow him a specially wide margin. Payment for a spring's work was delayed till the following January. Subsequently buyers itinerated from factory to factory and made purchases in lots. The producers not being posted in regard to prices, mostly disposed of their product at a lower figure than they should have demanded, leaving a considerable margin for speculation on the part of the buyers. Subsequently regular market-days were appointed at accessible points where salesmen from the country congregated and made the best bargains they could in the absence of regular market-reports from New York, London, and Liverpool. In 1871 boards of trade were established at Utica and Little Falls, New York. Under the regulations established by these bodies the trade of Central New York is now carried on.

Little Falls, in Herkimer County, New York, is the oldest cheese market in the United States. Formerly cheese was brought in wagons on market-days, and the streets were crowded with wagons the contents of which were piled high upon the railway platforms. Buyers inspected each separate lot and bargained closely with the farmers. The factory system has changed all this. Samples of cheese are now exhibited by only a few "private dairies." Factory cheese is fully known on the market by the brand of each establishment. New York dealers now arrive on the market at 1 o'clock p. m. on market-days, and find the town filled with salesmen of different factories, and contracts are speedily closed. New factories whose brand is not yet familiar to market men present small "plugs" of cheese carried in vials. Buyers' orders specify a particular brand, and frequently several orders for the same brand

gives it a special *prestige*. As the reputation of each brand is at stake under powerful competition, there is every motive present to secure a careful adherence to the standard. Each brand is guaranteed.

In Utica there is a more systematic arrangement, the summaries of the New York trade for the previous week being shown upon a large black-board, and compared with the corresponding week of the previous year. These summaries include the receipts and exports of cheese, premiums on gold, and foreign exchange, ocean-freights, prices, &c. A salesman, at a glance, can gain an approximate idea of the course of trade. Where the exports are close upon the receipts, he reasonably expects a good inquiry for his cheese, while the movement of prices can be readily calculated by a business-man. No class of business-men are more shrewd than cheese-dealers and producers. Each salesman writes upon the board the factory he represents, and the number of boxes he has for sale, thus showing the entire quantity of cheese on the market. After contracts have been made the salesman immediately sends orders to the factory for the shipment of the cheese.

OLEOMARGARINE CHEESE.—The manufacture of oleomargarine cheese has provoked a very animated, if not acrimonious, discussion among dairy-men. Three or four years ago Mr. Henry O. Freeman was making butter and skim-milk cheese in Chenango County, N. Y. He made several experiments with different materials to supply the specific elements that had been removed from the milk in the form of cream. He first tried unmerchable or inferior butter from the New York market, which he melted and purified of its disagreeable taste and odor. This was mixed with skimmed milk, and the mixture subjected to the cheese-making process. The product was not unpalatable, but differed from cream-cheese in being oily and soft instead of hard and tough. Mr. Freeman secured a patent for this process of making cheese from skim-milk.

The discovery of oleomargarine suggested to Mr. Freeman another material for enriching the depleted elements of skim-milk. This aroused a strong feeling among the regular cheese dealers, who denounced the new cheese as a filthy and noxious compound. Agricultural chemists, however, after a careful analysis, have shown that the oils combined in the oleomargarine are identical with those of butter, minus certain subtle odor-giving elements in the latter which chemical analysis has not yet been able to detect. In the manufacture of cheese, however, these fine cream-oils, which give to butter its peculiar flavor, are mostly dissipated, and hence cheese can be made of oleomargarine, of a composition so nearly identical with that of cream-cheese that no appreciable difference can be detected by analysis.

An American correspondent of the English Agricultural Gazette has subjected both kinds of cheese to the test of the microscope. Placing in focus a thin transparent scale of the material, he found that the cream-cheese was of an even, close structure, and the tiny round oil globules were held closely together in the curd. In the oleomargarine cheese the oil was observed in considerable masses in irregular cavities or "long slots." This method will easily detect the difference between the two kinds of cheese.

About a dozen factories have already been established in this country for the manufacture of oleomargarine cheese, and equipped in the best style. The men engaged in the business have a considerable capital, and evince a respectable share of energy and business tact. This method combines butter and cheese making. The new milk is first subjected to conditions which will abstract as large a proportion of cream as possible, which is used in making the finest grades of creamery butter. The skim-

milk is then placed in vats and heated to 92° Fahrenheit, when the oleomargarine, heated a few degrees higher, is poured in through a cloth strainer. The latter is brought in barrels, in which it appears to be an opaque, odorless fat with an oily taste, but no specific odor, but in heating, it assumes a clear, rich gold color, and at first floods the surface of the milk with a bright yellow coating. The mixture is then thoroughly agitated with large wooden paddles, and the rennet poured in. The agitation continues for about eight minutes, in order to drive the oil through the milk during the curdling process. The curd is allowed to stand ten minutes longer, when it is cut with a curd-knife and pressed in the usual way. The unappropriated oil then comes upon the surface of the whey, and is skimmed off. The process is quite similar to that of cream-cheese manufacture, the elements of the oleomargarine undergoing changes analogous to those of the cream, except that nature, in the udder of the cow, more perfectly performs the necessary emulsion of the oily materials of the milk than man can do by any mechanical process.

The manufacture of oleomargarine cheese is advocated on the ground that it utilizes a vast amount of otherwise waste material in the skim-milk. It does not propose to enter into competition with the finer grades of cream cheese. This class of products has an element of profit in itself which would render an attempt to invade its field entirely hopeless. But inferior brands, known to the trade as "half-skims" or "hard-skims," will probably be driven out of market by this process. There is no danger of any attempt to palm off oleomargarine cheese as cream cheese, as the means of detection are too numerous and too easily applied. Oleomargarine cheese has a function of its own, the supply of cheap food material, which does not attempt to grade with good brands of cream cheese. The severe denunciation which met the article upon its first introduction has measurably subsided. Organs of the cream-cheese interest demand that a careful distinction be made between the two kinds in every market, a necessity which will be less felt in proportion as the cream-cheese factories scrupulously adhere to the standards which have given them their specific reputation.

MEAT CONSUMPTION IN LONDON.—*Beef*: During 1874 there were imported for consumption into London 265,477 carcasses of cattle, weighing 75,580 tons, besides 293,000 live beeves, weighing 83,714 tons, which were slaughtered within the limits of London district. The total number of cattle required was, then, 558,477, weighing 159,564 tons, or 640 pounds per head. At 7d. per pound, the value of this beef was £10,424,848, or \$52,224,240.

Sheep and lambs: Carcasses, 1,592,850, weighing 45,510 tons; live animals, 1,749,000, weighing 50,864 tons; total, 3,341,850 animals, weighing 93,374 tons, averaging 64 pounds per head; total value, £6,296,434 13s. 4d., or \$31,482,173.

Swine: Carcasses, 530,950, weighing 32,755 tons; live animals, 7,000, weighing 300 tons; total, 537,950, weighing 23,055 tons, and averaging 96 pounds per head; total value, £1,506,260, or \$7,531,300.

Calves: Carcasses, 265,460, weighing 13,511 tons; live animals, 35,000, weighing 1,781 tons; total, 300,460, weighing 15,292 tons, and averaging 114 pounds per head; total value, £999,077 6s. 8d., or \$4,995,387.

Summary: Carcasses and live animals of all kinds, 4,738,737, weighing 294,285 tons; total value, £19,226,620, or \$96,233,100.

BRITISH IMPORTS OF BREADSTUFFS.—The imports of grain, flour,

meal, &c., into the United Kingdom during the first eight months of 1874 and 1875, respectively, were as follows:

	Quantities.		Values.	
	1874.	1875.	1874.	1875.
Wheat from—	<i>Cwt.</i>	<i>Cwt.</i>		
Russia.....	2,984,460	5,849,644	£1,848,376	£2,949,519
Denmark.....	94,822	147,766	64,552	76,423
Germany.....	1,828,651	3,363,407	1,330,616	1,840,436
France.....	55,475	492,760	34,595	258,836
Austrian territories.....	1,047	13,286	810	6,997
Turkey, Moldavia, and Wallachia.....	449,118	515,436	269,380	243,969
Egypt.....	267,820	631,699	157,692	312,120
United States.....	16,158,390	16,217,734	10,510,285	8,413,585
Chili.....	1,380,730	418,736	857,984	221,983
British North America.....	2,437,248	1,530,642	1,504,709	814,350
Other countries.....	1,933,572	912,312	1,284,905	491,643
Total of wheat.....	27,591,333	30,093,432	17,693,904	15,629,861
Barley.....	5,472,274	7,189,590	2,704,677	2,975,811
Oats.....	8,026,820	8,863,443	3,613,551	3,899,701
Pease.....	1,129,014	1,101,658	515,109	508,406
Beans.....	1,507,563	2,163,872	708,540	984,731
Maize.....	13,860,699	13,366,164	5,691,511	5,502,822
Total of grain.....	57,587,703	62,978,165	31,103,723	29,501,592
Flour and wheat-meal from—				
Germany.....	508,204	475,057	501,043	380,166
France.....	216,923	1,245,916	234,643	962,157
United States.....	2,539,942	1,536,985	2,321,045	1,150,330
British North America.....	293,511	171,117	258,965	121,008
Other countries.....	913,953	486,656	932,876	465,480
Total of flour and wheat-meal.....	4,472,593	3,915,731	4,248,572	3,079,141
Indian-corn meal.....	5,159	5,691	8,998	8,065
Total value of imports.....			35,361,293	32,588,798

From the foregoing it appears that the wheat supply from Russia increased nearly 100 per cent. over the previous year in quantity, and 60 per cent. in value. Denmark increased 50 per cent. in quantity, and nearly 20 per cent. in value. Germany increased 84 per cent. in quantity, but less than 40 per cent. in value. France increased her small supply to nearly nine-fold in quantity, eight-fold in value. The Austrian territories increased their still smaller supply to thirteen-fold in quantity, and eight-fold in value. The Turkish Empire added 15 per cent. in quantity, but lost nearly 10 per cent. in aggregate value. Egypt more than doubled her quantity, and nearly doubled her value. The United States slightly exceeded her previous year's export, but lost 20 per cent. in value. Chili fell off over 70 per cent. in quantity, and 80 per cent. in value. British America lost 50 per cent. in both. Other countries lost nearly 60 per cent. in quantity, and over 70 per cent. in value. The entire wheat import increased 9 per cent. in quantity, but declined nearly 13 per cent. in value.

Of the other grains, total barley import increased 30 per cent. in quantity, and 10 per cent. in value; oats, 10 per cent. in quantity, and 8 per cent. in value; beans, nearly 45 per cent. in quantity, and 40 per cent. in value. The import of pease decreased 2 per cent. in quantity, and 1½ per cent. in value. The entire raw grain import increased over 9 per cent. in quantity, but declined 5 per cent. in value. Flour and wheat-meal fell off 12 per cent. in quantity, and nearly 25 per cent. in value. France alone increased her quota, raising it to six-fold in quantity, and four-fold in value. The United States declined 40 per cent. in quantity, and 50

per cent. in value. British North America shows a still greater reduction. Flour and wheat-meal lost 12 per cent. in quantity, and 27 per cent. in value. The trivial import of Indian-corn meal increased slightly in quantity, but fell off in value. The aggregate value of the breadstuff import declined nearly 8 per cent.

Of the wheat import of 1875, the United States furnished 53.8 per cent., against 58.6 per cent. the previous year. Russia raised her proportion from 10.8 per cent. in 1874 to 19.4 per cent. in 1875. The proportions of British North America for the two years, respectively, were 8.8 per cent. and 5 per cent.; of Germany, 6.6 per cent. and 11.2 per cent.; of Chili, 4.9 per cent. and $1\frac{1}{2}$ per cent. The proportion of other countries was still smaller. Of wheat flour and meal, the United States furnished 56.9 per cent. in 1874 and 39.3 per cent. in 1875; France, 4.9 per cent. in 1874 and 31.5 per cent. in 1875; Germany, 11.4 per cent. in 1874 and 12.1 per cent. in 1875.

The approximate average import values per hundred-weight of wheat during the two years, respectively, were as follows: Russian, 12s. 5d. and 10s. 1d.; Danish, 12s. 7d. and 10s. 4d.; German, 14s. 6d. and 10s. 8 $\frac{1}{2}$ d.; French, 12s. 6d. and 10s. 6d.; Austrian, 15s. 6d. and 10s. 6 $\frac{1}{2}$ d.; Turkish, 11s. 10d. and 9s. 5 $\frac{1}{2}$ d.; Egypt, 11s. 9d. and 9s. 10 $\frac{1}{2}$ d.; United States, 13s. and 10s. 8 $\frac{1}{2}$ d.; Chilian, 12s. 10 $\frac{1}{2}$ d. and 10s. 7 $\frac{1}{2}$ d.; British North American, 12s. 4d. and 10s. 8 $\frac{1}{2}$ d.; other countries, 13s. 3 $\frac{1}{2}$ d. and 10s. 11 $\frac{1}{2}$ d.; general average, 13s. 4 $\frac{1}{2}$ d. and 10s. 9d.; general average of barley, 9s. 10 $\frac{1}{2}$ d. and 8s. 3d.; oats, 8s. and 8s. 9 $\frac{1}{2}$ d.; pease, 9s. 1 $\frac{1}{2}$ d. and 10s.; beans, 9s. 4 $\frac{3}{4}$ d. and 9s. 1 $\frac{1}{2}$ d.; general average of all grains, 11s. 7 $\frac{1}{2}$ d. and 9s. 7d.; average of German flour and wheat-meal, 19s. 11d. and 16s.; French ditto, 21s. 1 $\frac{1}{2}$ d. and 15s. 5 $\frac{1}{2}$ d.; United States ditto, 18s. 3 $\frac{1}{2}$ d. and 14s. 11d.; British North American, 17s. 7 $\frac{1}{2}$ d. and 14s. 3d.; ditto, from other countries, 20s. 5d. and 19s. 4d.; general average of flour and wheat-meal, 19s. 5 $\frac{1}{2}$ d. and 15s. 8 $\frac{1}{2}$ d.; general average of Indian-corn meal, 34s. 7 $\frac{3}{4}$ d. and 28s. 4d.

In 1874, the small import of Austrian wheat, which probably was of a very select character, brought the highest value, 15s. 6d. per hundred-weight, and Egyptian the lowest, 11s. 9d. per hundred-weight; in 1875, the highest value, 10s. 11 $\frac{3}{4}$ d. was averaged by countries not enumerated, and the lowest, 9s. 5 $\frac{1}{2}$ d., by the Turkish provinces. United States wheat was below average in both years. Of flour and wheat-meal the French import reached the highest value, 21s. 1 $\frac{1}{2}$ d. per hundred-weight, and British North American the lowest, 17s. 7 $\frac{1}{2}$ d.; in 1875 Germany received the maximum, 16s., and British America the minimum, 14s. 3d. United States flour and wheat-meal was below the average of both years.

AGRICULTURAL STATISTICS OF ONTARIO.—The commissioner of agriculture of the province of Ontario, in his report for 1874, gives the following as the average yield of grain-crops per acre in that province during four years:

Crops.	1871.	1872.	1873.	1874.
Fall-wheat.....bushels..	27 $\frac{3}{4}$	18	22	18 $\frac{1}{2}$
Spring-wheat.....do.....	17 $\frac{3}{4}$	19	15 $\frac{1}{2}$	16 $\frac{1}{2}$
Oats.....do.....	37 $\frac{3}{4}$	33	39 $\frac{3}{4}$	38 $\frac{1}{2}$
Rye.....do.....	19 $\frac{3}{4}$	17	19 $\frac{1}{2}$	17 $\frac{1}{2}$
Barley.....do.....	30	38	37 $\frac{3}{4}$	30 $\frac{3}{4}$
Pease.....do.....	24 $\frac{1}{2}$	21	26 $\frac{1}{2}$	24 $\frac{1}{2}$

These averages are made up from the returns of "electoral division societies," of which only 43 have made returns of a whole number of 81.

Thirty-four divisions also report in regard to potatoes; of these, ten average less than 100 bushels per acre; fifteen, from 100 to 150; six, 50; ten, 180, and one, 200.

Turnips, mangolds, and carrots were also represented, presenting a wide range of yield. The maximum of mangolds was 1,000 bushels; of carrots, 700; and of turnips, 600.

Contrary to expectation, the largest yields are not found in the more southern and sunny districts. A very great difference in yield is found to be due to differences in farming skill and experience. Many farmers of the province have taken up the business after having spent the earlier part of their lives in some other calling.

The report generalizes thus: "It is noteworthy that the higher and, consequently, drier portions of fields escaped injury more or less from spring frosts, while in the lower portions, where the soil was generally deeper and wetter, the crop was generally injured, and in not a few instances absolutely destroyed." These facts indicate the necessity of under-draining, in order to remove the surplus water from the soil.

OUR FOREIGN TRADE.—The report of the Bureau of Statistics of the Treasury for the fiscal year ending June 30, 1875, gives the following aggregates:

	1874.	1875.
Imports, free of duty	\$179,936,638	\$167,180,644
dutiable	415,924,580	386,527,509
Total.....	595,861,218	553,906,153
Exports, domestic.....	693,039,054	643,094,767
foreign.....	23,780,338	22,432,624
Total.....	716,819,392	665,527,391

Of the imports, \$20,900,717 were in gold and silver coin and bullion, a decrease of \$7,554,144, compared with the previous year. The imports of merchandise amounted to \$533,005,436, a decrease of \$34,400,943. Of the exports, \$92,131,692 were in the precious metals, an increase of \$25,501,287; the exports of merchandise amounted to \$573,395,699, a decrease of \$76,793,338. The total import trade has declined \$41,955,095, and the total export trade \$51,292,051. In 1875 the total exports exceeded the total imports by \$111,621,238; in 1874 the excess was \$120,958,194. Of the precious metals, the exports of 1875 exceeded the imports by \$71,230,975; in 1874 the excess was \$38,176,544. Of merchandise, the exports of 1875 exceeded the imports by \$40,390,263; in 1874 the excess was \$82,782,650. Of the imports of 1875, \$13,083,968 were brought across the frontier in land-carriages, against \$14,513,335 the previous year, or 2.36 per cent. in 1875 against 2.44 per cent. in 1874. American vessels brought in \$157,872,626 against \$176,027,778, or 28.5 per cent. in 1875 against 29.41 per cent. in 1874. The imports by foreign vessels in 1875 were \$382,949,559, against \$405,320,135, or 69.14 per cent. against 68.15. Of the exports and re-exports, \$7,507,550 were transported across the frontier by land-carriage, against \$8,509,205 in 1874, or 1.14 per cent. against 1.19 per cent.; American vessels took \$156,153,444, against \$174,424,216 in 1874, or 23.39 per cent. against 24.33 per cent.; foreign bottoms transported \$501,866,397, against \$533,885,971 in 1874, or 75.56 per cent. against 74.48 per cent. Both import and export trade, then, shows an increasing preponderance of foreign shipping.

Two-thirds of our imports for 1875, amounting to \$363,637,580, were received at New York; Boston received \$51,982,266, or nearly 9½ per cent.; San Francisco and Baltimore received about 5 per cent. each, the former \$29,697,483 and the latter \$27,778,992; Philadelphia, \$24,236,387, or about 4½ per cent.; New Orleans, \$12,356,487, or nearly 2½ per cent. Of the total exports, native and foreign, New York shipped \$344,703,969, or 53 per cent.; New Orleans, \$71,613,982, or nearly 11 per cent.; San Francisco, \$31,838,343; Boston, \$30,866,033; Savannah, \$29,666,666; Philadelphia, \$28,611,654; Baltimore, \$27,615,822—between 4 and 5 per cent. each; Charleston, South Carolina, \$19,655,966, or 3 per cent.; Texas, Texas, \$16,225,907, or 2½ per cent.; Mobile, \$10,132,188, or 1½ per cent.

The aggregates of imports and exports of leading foreign countries during the twelve months ending May 31, 1875, respectively, were as follows:—Brazil: imports, \$42,033,046; exports, \$7,372,443. China and Japan: imports, \$21,252,742; exports, \$538,002. France: imports, \$63,342,631; exports, \$50,753,911. Germany: imports, \$40,893,386; exports, \$53,762,305. British Islands: imports, \$157,047,827; exports, \$373,354,422. Canada: imports, \$32,359,559; exports, \$34,879,719. British North America: imports, \$404,311; exports, \$1,843,161. British West Indies: imports, \$4,642,891; exports, \$7,754,661. Cuba and Porto Rico: imports, \$73,675,609; exports, \$24,420,629. Other West Indies: imports, \$4,134,780; exports, \$2,848,109. East Indies: imports, \$22,359,498; exports, \$1,507,208. Mexico: imports, \$11,634,983; exports, \$5,781,783. Holland and Belgium: imports, \$8,542,756; exports, \$20,271,642. In the last enumerated aggregates the imports are stated in specie-values and the exports mostly in currency.

Of agricultural imports the value of living animals was \$2,083,152 in 1875, against \$2,627,502 in 1874; of breadstuffs, \$10,388,013, against \$11,947,689; of unmanufactured cotton, \$408,808, against \$704,784; of eggs, \$600,344, against \$747,866; of seeds, \$319,696, against \$175,799; of raw silk, \$4,504,306, against \$3,854,008; wood, unmanufactured, \$1,895,363, against \$2,262,441; of flax, unmanufactured, \$1,092,405, against \$902,038; of fruits and nuts, \$12,537,568, against \$8,281,418; of hemp, unmanufactured, \$3,110,303, against \$3,676,967; of jute, unmanufactured, \$1,273,034, against \$1,006,618; of potatoes, \$166,981, against \$331,370; of provisions, not including vegetables, \$1,229,379, against \$1,747,442; of leaf-tobacco, \$3,724,534, against \$5,537,651; of unmanufactured wool, \$11,069,701, against \$8,250,306.

Of agricultural domestic exports the value of living animals was \$2,668,900 in 1875, against \$3,310,388 in 1874; of bark for tanning, \$193,938, against \$160,670; of unmanufactured breadstuffs, \$85,425,488, against \$129,024,418; of unmanufactured cotton, \$190,638,625, against \$211,223,580; of fruits, \$1,317,670, against \$710,513; of ginseng, \$658,926, against \$448,760; of hay, \$110,225, against \$111,872; of unmanufactured hemp, \$21,856, against \$8,901; of hides and skins, other than fur, \$4,729,725, against \$2,560,382; of fur-skins, \$4,396,424, against \$3,334,365; of hops, \$1,286,497, against \$27,973; of bacon and hams, \$28,611,930, against \$33,383,908; of beef, \$4,197,956, against \$2,956,676; of butter, \$1,506,764, against \$1,092,381; of cheese, \$13,659,561, against \$11,898,995; of condensed milk, \$123,565, against \$79,018; of eggs, \$8,743, against \$5,239; of lard, \$22,900,486, against \$19,308,019; of pork, \$5,671,495, against \$5,803,712; of vegetables, \$742,822, against \$679,467; of rice, \$19,806, against \$27,075; of seeds, \$1,291,015, against \$738,914; of tallow, \$5,692,203, against \$8,135,320; of unmanufactured tobacco, \$25,241,549, against \$30,399,181; of wood and lumber

\$14,740,194, against \$17,353,721; of unmanufactured wool, \$62,754, against \$72,169.

CROPS IN MICHIGAN.—The following statements are condensed from a communication to the Department by Mr. J. P. Thompson, secretary of the Michigan State Pomological Society: Wheat-culture in Michigan is making progress. Preparation of soil, fertilization, and the quality of seed are receiving more attention. The crop of the past season proves, on thrashing, to be full average in quantity, and better than was anticipated in quality. In Mr. Thompson's place of residence, Cascade, and surrounding towns, the average yield reported by the thrashers is 20 bushels per acre, and the product of the county, Kent, is 800,000 bushels. Though corn was somewhat cut by frost, yet the crop is the largest and best ever produced in the State. The same is true of the crops of potatoes and buckwheat. An unusually large area of the former was planted, owing to the high price of potatoes at the time of planting; and of the latter, owing to fears of a failure in the wheat-crop. The potato-beetle has been easily kept at bay, and is receding before the combined power of "parasitic enemies and the vigorous application of Paris green. All root-crops have done well.

Our statistical correspondent in Mecosta states that 7 acres of Diehl wheat which escaped frost yielded 35 bushels per acre; 28 acres of Diehl and Treadwell, 37 bushels; 1 acre of Clawson, 41½ bushels; and a field of "white amber," 40 bushels. He adds: "Had it not been for the June frost, our average yield would have been enormous. All the yields mentioned are products of the natural soil, without fertilizers of any kind, and with just fair cultivation."

WHEAT-YIELDS IN WISCONSIN.—A correspondent in Outagamie County has ascertained from the thrashers that in that county the varieties of wheat have yielded at the rates stated: Deihl wheat, 34 bushels per acre; Fultz and "Russian wheat," (lately imported from Russia by a miller at the village of Neenah,) each, 33 bushels. The latter is a white wheat, said to be equal to the Fultz in standing the winter, and therefore thought to be preferable. The variety of spring-wheat producing the largest yield was the Canada Club—33 bushels per acre. Our correspondent states that, owing to the large yield of winter-wheat, a large acreage will be sown this fall.

AN UNKNOWN DISEASE AMONG HOGS.—A correspondent in Juniata County, Pennsylvania, states that a new and fatal disease is prevailing among hogs in that and the adjoining counties of Perry, Snyder, Dauphin, and Northumberland, and that it has already resulted in losses amounting to thousands of dollars. He describes its symptoms and effects as follows:

Most of the animals affected live only a few days after the first noticeable attack. In some it commences with costiveness, and in others with diarrhea. The excrements are black and very offensive. From the first attack all breathe with great difficulty. Some refuse food altogether, while others seem to have their appetite scarcely diminished until, perhaps, a few hours before they die. The disease seems to be altogether in the lungs. Post-mortem examinations have proved that in some instances the lungs are entirely decayed or rotten, crumbling apart in whitish particles by a very slight touch; in others the lungs were found to be only a mass of slimy white matter, emitting an offensive smell. So far no remedy has been discovered either as a preventive or as a cure.

DISEASED CATTLE.—Our correspondent in Medina County, Ohio, reports that Mr. F. B. Chamberlain bought August 13, at East Saint Louis stock-yards, 37 th 2-year-old Illinois steers. He shipped them by rail, via Toledo, to Elyria, Lorain County, and drove them thence, about

thirty miles, to his farm in the south part of Medina County. They soon began to sicken, and our correspondent has obtained from Mr. Chamberlain and forwarded the following statement of the disease and treatment.

Out of the 37, 30 were affected, and 15 died. The others are now doing well. Symptoms: The cattle look dull in the eyes, have hot horns, are weak in the hind parts, always want to lie down, try to get as near water as possible, their urine highly colored, their breath heavy, and they seem to be in great pain. Those that were worst had no movement of the bowels. If a movement could be effected when they were not too far gone, they got well. They were at times a little cross in temper. The medicine given was salts and ginger. It did good work.

PRODUCTS IN SOUTHERN TENNESSEE.—A correspondent in Marion County, which lies on the border of North Carolina, just west of Chattanooga, is authority for the following statement: A neighbor of his "cow-penned" one-fourth of an acre of mountain land for one year. He then planted it with Russet potatoes, and between the potato-hills planted corn. The returns were, 200 bushels of potatoes and 15 bushels of corn; that is at the rate of 800 bushels of potatoes and 60 bushels of corn to the acre.

The same correspondent sends to the Department a specimen of wild grass, together with its seed, which proves to be *Sorghum nutans*, very common on western prairies. He states: "It grows on very poor soil, from 6 to 8 feet high, and it makes very good hay, which cattle and horses eat with a relish. It is up earlier in the spring and withers later in the fall than almost any other of the native grasses."

RAMIE IN CALIFORNIA.—Experiments made by Dr. Drury in growing ramie the present season in Kern County have been quite successful. He had produced plants 7 to 10 feet in height, and in sufficient quantity to plant, as he intends, 40 acres the coming season. It is claimed that the hitherto-existing impracticability of separating the fiber from the stalk has now been overcome by the invention of a machine which does it effectually, and at the rate of 1,400 pounds of cleaned and dressed fiber per day.

MARKET-PRICES OF FARM-PRODUCTS, OCTOBER, 1875.

The following quotations represent the state of the market, as nearly as practicable, at the beginning of the month:

Articles.	Prices.	Articles.	Prices.
NEW YORK.		BOSTON—Continued.	
Flour, superfine per bbl.	\$5 10 to \$5 50	Beef, family per bbl.	\$17 00 to \$17 50
extra State do.	5 75 to 6 60	Pork, prime do.	16 50 to 17 00
extra to choice western,		mess do.	22 50 to 22 75
per barrel do.	5 75 to 9 00	Lard per lb.	14½ to 15
common to fair southern		Butter, New York and Vermont,	
extras per bbl.	5 85 to 7 00	per pound do.	20 to 33
good to choice southern		western per lb.	13 to 34
extras per bbl.	7 05 to 9 00	New York and Vermont	
Wheat, No. 1 spring ... per bush.	1 33 to 1 41	factory per lb.	10½ to 13½
No. 2 spring do.	1 24 to 1 31½	Cheese, western factory ... per lb.	10 to 13½
winter, red, western,		Sugar, fair to good refining, do.	7½ to 8½
per bushel do.	1 20 to 1 44	Cotton, ordinary to good ordi-	
winter, amber, western,		nary per lb.	11 to 12½
per bushel do.	1 20 to 1 44	low middling to good	
winter, white, western,		middling per lb.	13 to 14½
per bushel do.	1 32 to 1 65	Wool, Ohio and Pennsylvania,	
Rye per bush.	90 to —	per pound do.	44 to 49
Barley do.	1 50 to 1 55	Michigan per lb.	42 to 43
Corn do.	67½ to 73	other western do.	40 to 45
Hay, first quality per ton.	15 00 to 20 00	pulled do.	29 to 53
second quality do.	14 00 to 15 00	combing fleece do.	37 to 60
Beef, mess per bbl.	8 50 to 10 00	California do.	16 to 37
extra mess do.	10 50 to 11 50		
Pork, mess do.	22 00 to 22 50	PHILADELPHIA.	
extra prime do.	16 00 to 16 50	Flour, superfine per bbl.	4 75 to 5 00
prime mess do.	19 50 to 20 00	Pennsylvania extra to	
Lard per lb.	13½ to 14	choice per bbl.	5 00 to 7 00
Butter, western do.	19 to 34	western extra to choice,	
State dairy do.	25 to 37	per barrel do.	6 13½ to 7 50
Cheese, State factory do.	10 to 13½	Wheat, red per bush	90 to 1 40
western factory do.	10 to 12½	amber do.	1 25 to 1 42
Sugar, fair to prime refining,		white do.	1 40 to 1 60
per pound do.	7½ to 8½	Rye do.	90 to 92
Cotton, ordinary to good ordi-		Barley do.	— to —
nary per lb.	10½ to 12	Corn do.	69 to 74
low middling to good		Oats do.	39 to 55
middling per lb.	12½ to 15½	Hay, prime baled per ton.	23 00 to 25 00
Tobacco, lugs per lb.	7 to 10	baled, common to fair ship-	
low leaf to medium		ping per ton.	20 00 to 22 00
leaf per lb.	10 to 14	Beef, western mess per bbl.	7 00 to 9 00
Wool, American XXX and pick-		extra mess do.	8 00 to 9 00
lock per lb.	50 to 54	Warthman's city family,	
American X and XX, per		per barrel do.	16 00 to —
pound do.	43 to 48	Pork, mess per bbl.	22 00 to 22 50
American, combing, per lb.	55 to 65	prime mess do.	20 00 to —
pulled do.	43 to 46	prime do.	16 50 to 17 00
California spring clip, per		Lard per lb.	13½ to 17
pound do.	22 to 32	Butter, choice Middle State, do.	23 to 33
California fall clip, per lb.	18 to 22	choice western do.	29 to 31
		Cheese, New York factory, good	
BOSTON.		to fancy per lb.	11 to 13½
Flour, western superfine, per bbl.	4 50 to 5 00	Ohio factory, good to fancy	
common western spring		per pound do.	10½ to 12½
extra, per lb. do.	5 50 to 6 00	Sugar, fair to good refining, do.	7½ to 8½
red wheats, good to fancy		Cotton, ordinary to good ordi-	
northwestern per bbl.	6 00 to 9 25	nary per lb.	11 to 13½
white wheat, good to		low middling to good	
fancy western per bbl.	6 75 to 9 00	middling per lb.	13½ to 14½
southern family do.	7 50 to 9 00	Wool, Ohio X and XX do.	45 to 51
Wheat per bush	1 05 to 1 60	other western do.	40 to 45
Corn do.	74 to 77	tub-washed do.	42 to 58
Oats do.	42 to 56	pulled do.	42 to 63
Rye do.	1 00 to —	combing do.	46 to 48
Barley do.	1 10 to 1 35		
Hay, eastern and northern, per		BALTIMORE.	
ton do.	17 00 to 23 00	Flour, superfine per bbl.	4 25 to 5 00
Beef, mess per bbl.	10 00 to —	extra do.	5 25 to 5 75
extra mess do.	12 00 to —	family and fancy do.	6 00 to 9 00

Market-prices of farm-products—Continued.

Articles.	Prices.	Articles.	Prices.
BALTIMORE—Continued.		CHICAGO—Continued.	
Wheat, red per bush.	\$1 10 to \$1 40	Barley, No. 2..... per bush.	\$1 02 to \$1 03
amber do...	1 45 to 1 55	Oats, No. 2..... do...	34 to 37½
white do...	1 20 to 1 40	Hay, timothy per ton.	— to 16 00
Rye do...	80 to 85	prairie do...	10 50 to 12 00
Oats do...	45 to 52	Beef, mess per bbl.	9 00 to —
Corn do...	63 to 80	extra mess do...	10 00 to —
Hay, Middle States per ton.	20 00 to 27 00	Pork, mess do...	22 75 to —
Pork, mess per bbl.	23 00 to 23 50	extra mess do...	— to —
extra prime do...	16 50 to —	extra prime do...	— to —
Lard per lb.	14½ to 17	Lard per lb.	13½ to 13½
Butter, western do...	19 to 30	Butter, choice to fancy do...	26 to 31
eastern do...	20 to 35	medium to good do...	18 to 23
Cheese, western factory, good to choice per lb.	11 to 13	Cheese, good to fancy factory, do.	10 to 11½
eastern factory, good to choice per lb.	12½ to 13½	Sugar, brown, common to choice, per pound do...	7½ to 9½
Sugar, fair to good refining, do... New Orleans, grocery grades per lb.	7½ to 8½	Wool, tub-washed per lb.	40 to 53
Tobacco, lugs do...	8½ to 11	fleece-washed do...	40 to 43
common to medium leaf, per pound do...	10 to 14	unwashed do...	26 to 33
Cotton, ordinary to good ordinary per lb.	— to —	pulled do...	— to —
low middling to good middling per lb.	12½ to 13½	SAINT LOUIS.	
CINCINNATI.		Flour, winter, common to choice, per bbl. do...	4 00 to 7 50
Flour, superfine per bbl.	4 50 to 5 00	spring per bbl.	3 75 to 5 75
extra do...	5 25 to 5 75	Wheat, white winter per bush.	1 30 to 1 60
family and fancy do...	6 25 to 8 25	red winter do...	1 10 to 1 60
Wheat, winter, red per bush.	1 10 to 1 42	spring do...	— to —
hill, (amber) do...	— to —	Corn do...	52 to 67
white do...	1 30 to 1 50	Rye do...	65 to 71
Rye do...	60 to 80	Barley do...	1 00 to 1 32
Barley do...	75 to 1 45	Oats do...	30 to 46
Corn do...	60 to 65	Hay, timothy per ton.	16 00 to 18 50
Oats do...	30 to 48	prairie do...	7 00 to 9 50
Hay, baled, No. 1 per ton.	20 00 to 22 00	Beef, mess per bbl.	14 00 to 15 00
lower grades do...	14 00 to 18 00	Pork, mess do...	22 50 to 23 25
Beef, plate per bbl.	— to —	Lard per lb.	12 to 14
Pork, mess do...	22 25 to 22 75	Butter, prime to choice dairy, per pound do...	27 to 28
Lard per lb.	13½ to 14½	country packed per lb.	20 to 23
Butter, choice do...	28 to 35	Cheese, Ohio factory do...	10 to 11½
prime do...	22 to 25	N. Y. factory do...	13 to 13½
Cheese, prime to choice factory, per pound do...	12 to 13	Tobacco, lugs do...	5½ to 6½
Sugar, New Orleans, fair to good, per pound do...	— to —	leaf per lb.	7½ to 16
prime to choice per lb.	— to —	Wool, tub-washed do...	44 to 56
Tobacco, lugs do...	7 to 9	fleece-washed do...	35 to 38
leaf do...	12 to 15	unwashed do...	27 to 37
Cotton, ordinary to good ordinary per lb.	10½ to 11½	Cotton, ordinary to good ordinary per lb.	10½ to 11½
low middling to good middling per lb.	12½ to 13½	low middling to good middling per lb.	12 to 13½
Wool, fleece-washed, common to fine per lb.	38 to 43	NEW ORLEANS.	
tub-washed do...	43 to 48	Flour, superfine per bbl.	4 50 to —
unwashed, clothing do...	31 to 32	extra do...	4 75 to 6 25
unwashed, combing do...	34 to 38	choice to fancy do...	6 50 to 9 00
pulled do...	31 to 37	Corn per bush.	72 to 78
CHICAGO.		Oats do...	40 to 52
Flour, choice white winter extras, per barrel do...	6 50 to 7 50	Hay, choice per ton.	— to 24 00
common to good white winter extras per bbl.	5 75 to 6 50	prime do...	21 50 to —
choice spring extras do...	5 50 to 6 00	Beef, Texas per bbl.	10 00 to 10 50
patent spring do...	6 75 to 8 50	western do...	16 00 to —
spring superfines do...	3 75 to 4 75	Fulton market per ½ bbl.	11 50 to 12 00
Wheat, No. 1 spring per bush.	1 16 to —	Pork, mess per bbl.	23 75 to 24 50
No. 2 spring do...	1 11 to 1 13	Lard per lb.	14½ to 15½
No. 3 spring do...	99 to 1 02	Butter, choice Goshen do...	35 to —
Corn, No. 2 do...	55½ to 56	choice western do...	25 to —
Rye, No. 2 per bush.	72 to —	Cheese, choice western factory, per pound do...	10 to 10½
		N. Y. cream per lb.	14 to 16
		Sugar, fair to fully fair do...	8½ to 9½
		prime to choice do...	9½ to 9½
		clarified, white, and yellow per lb.	9½ to 10½
		Tobacco, lugs do...	7½ to 10
		leaf do...	11 to 20

Market-prices of farm-products—Continued.

Articles.	Prices.	Articles.	Prices.
NEW ORLEANS—Continued.		SAN FRANCISCO—Continued.	
Cotton, ordinary to good ordinary.....per lb.	— — to \$0 11½	Corn, white..... per cental.	\$1 40 to \$1 50
low middling to good middling.....per lb.	\$0 12½ to 13½	yellow.....do.	1 30 to 1 35
Wool, lake.....do.	— — to — —	Hay, State..... per ton.	13 00 to 19 00
SAN FRANCISCO.		Beef, mess..... per bbl.	8 00 to 10 00
Flour, superfine..... per bbl.	5 00 to 5 25	family mess..... per ½ bbl.	7 50 to 8 00
extra.....do.	5 50 to 5 75	Pork, mess..... per bbl.	24 00 to 25 00
family and fancy.....do.	6 00 to 6 50	prime mess.....do.	16 50 to 17 50
Wheat, California..... per cental.	1 75 to 2 10	Lard..... per lb.	15 to 16½
Oregon.....do.	2 00 to 2 10	Butter, overland.....do.	20 to 27
Barley.....do.	1 30 to 1 50	California.....do.	30 to 47½
Oats.....do.	1 65 to 2 00	Oregon.....do.	20 to 25
		Cheese.....do.	12½ to 15
		Wool, native.....do.	10 to 15
		California.....do.	15 to 25
		Oregon.....do.	15 to 25

LIVE-STOCK MARKETS.

NEW YORK.		CHICAGO.	
Cattle, extra beeves..... per cental.	\$12 50 to \$13 00	Cattle, extra-graded steers, 1,300 to 1,550 pounds, per cental.	\$6 20 to \$6 40
good to prime.....do.	12 25 to 12 50	choice beeves, 1,250 to 1,450 pounds, per cental.	5 20 to 6 00
common to fair.....do.	10 75 to 11 00	good beeves, 1,150 to 1,350 pounds..... per cental.	4 80 to 5 25
Texans..... per cental.	8 50 to 11 00	medium, 1,100 to 1,250 pounds..... per cental.	4 15 to 4 65
milch-cows..... per head.	— — to — —	inferior.....do.	1 75 to 3 75
veal calves..... per cental.	7 50 to 9 50	Texans, through droves, per cental.	2 50 to 3 75
Sheep.....do.	5 25 to 7 25	Sheep..... per cental.	3 50 to 5 00
Swine.....do.	8 62½ to 8 80	Swine.....do.	7 00 to 9 50
PHILADELPHIA.		SAINT LOUIS.	
Cattle, prime beeves..... per cental.	7 62½ to 8 00	Cattle, good to choice native steers, per cental.	5 75 to 6 25
fair to good.....do.	6 00 to 7 50	common to fair natives, per cental.	4 00 to 5 75
common.....do.	4 00 to 5 50	inferior and common, per cental.	2 00 to 3 00
Sheep.....do.	4 50 to 6 00	Texans, fair to choice, per cental.	2 50 to 4 40
Swine, corn-fed.....do.	12 00 to 14 00	Sheep..... per cental.	2 85 to 4 25
BALTIMORE.		Swine.....do.	6 00 to 8 00
Cattle, best beeves..... per cental.	6 75 to 7 25	Horses, plugs..... per head.	40 00 to 75 00
first quality.....do.	4 75 to 5 75	plain.....do.	80 00 to 110 00
medium or good quality, per cental.	3 75 to 4 75	street-car.....do.	75 00 to 125 00
ordinary..... per cental.	2 50 to 3 75	heavy-draught.....do.	100 00 to — —
general average.....do.	4 50 to — —	good drivers.....do.	150 00 to — —
most of the sales.....do.	4 00 to 5 00	extra.....do.	200 00 to — —
milch-cows..... per head.	— — to — —	Mules, 14 to 15 hands high.....do.	85 00 to 120 00
Sheep..... per cental.	4 00 to 5 50	15 to 16 hands high.....do.	120 00 to 180 00
Swine.....do.	10 50 to 11 75	extra.....do.	175 00 to 200 00
CINCINNATI.		NEW ORLEANS.	
Cattle, good to prime butchers' steers..... per cental.	5 00 to 5 50	Cattle, Texas beeves, choice, per head.	40 00 to 46 00
fair to medium.....do.	3 75 to 4 75	first quality..... per head.	30 00 to 35 00
common.....do.	2 25 to 3 25	second quality.....do.	20 00 to 25 00
milch-cows..... per head.	— — to — —	western.....do.	— — to — —
veal calves..... per cental.	5 50 to 7 00	milch-cows.....do.	35 00 to 100 00
Sheep.....do.	2 50 to 4 75	Sheep.....do.	2 00 to 5 00
Swine.....do.	6 00 to 8 00	Swine.....do.	8 00 to 11 00

FOREIGN MARKETS.

WHEAT.—The late rains in England have placed the ground in fair condition for the plow, and so far is favorable to the next wheat crop. The unfavorable weather of July had caused an excessive importation of foreign wheat, causing considerable decline in prices. British farmers, however, show an indisposition to hurry their crops to market, while holders of foreign grain are equally reluctant to accept ruling prices. From these causes it was hoped, about the close of September, that the downward tendency of prices would be checked. The English provincial markets report a very slight activity, and a tendency to hold over for better prices. Hull, the leading point of import for northern European grain, is overstocked with foreign wheat, leaving a large amount on hand for which there is no demand, except for a few fine new Baltic sorts. The Scotch and Irish markets are equally inactive, the foreign arrivals being generally above the demand. French holders stoutly resist the downward sweep of prices. Paris yielded but 1 franc per 280 pounds of flour during the week ending September 25, and held fast to her wheat figures. The French provincial markets, however, were less tenacious; 14 markets advanced during the week, 73 remained firm, and 110 declined, yet the average rates were but slightly depreciated. Belgium markets were calm, the decline having been arrested. The same may be said of Holland. In Germany, Hamburg was firm, while other German markets showed an upward tendency. The previous reduction in prices had caused a falling off in supplies, farmers preferring to wait for better prices, especially as their crops were generally housed in fine condition for preservation. Dantzic, however, manifested some discouragement as to the future. At Adelaide, South Australia, up to July 15, the wheat export amounted to 105,000 tons, or about 3,500,000 bushels, with a reserve awaiting export of 78,000 tons, or 2,600,000 bushels; but the prospects of the growing crops were not remarkably good. It was thought that at least 30,000 tons, or 1,000,000 bushels, would be held over. A large part of the shipments were to new settlements in the Antarctic and South Pacific regions. In the middle of August, however, advices unfavorable to the growing crops of England stimulated inquiry for wheat and tended to enlarge the export.

In England, during the week ending September 25, the sales of domestic wheat amounted to 49,791 quarters, at 48s. 7d., against 72,524 quarters, at 46s. 8d., during the corresponding week of 1874. The London averages during the same week were 48s. 10d. on 1,620 quarters. The imports into the United Kingdom during the previous week amounted to 1,578,481 cwt. The deliveries of English wheat, then, show a decline of 30 per cent. compared with the same period of the previous year. The week opened in Mark Lane on moderate supplies of domestic, with good arrivals of American and Russian. Essex and Kent white wheat was quoted at 48s. to 55s. per quarter; ditto, red, 47s. to 50s.; Norfolk, Lincolnshire, and Yorkshire red, 41s. to 50s.; Dantzick mixed, 51s. to 55s.; Königsberg, 48s. to 53s.; Rostock, 46s. to 50s.; Silesian red, 45s. to 50s.; Pomeranian, Mecklenberg, and Uckermark red, 46s. to 48s.; Ghirka, 45s. to 46s.; Russian hard, 42s. to 44s.; Saxonska, 46s. to 49s.; Danish and Holstein red, 45s. to 48s.; American red, 44s. to 47s.; Chilian white, 49s.; Californian, 51s.; Australian, 50s. to 55s. In Paris prices ranged from 45s. to 49s.; in Brussels old native wheat brought 49s.; at Hamburg prices remained firm at 44s., which was about the ruling rate at

Berlin, Cologne, Vienna, and St. Petersburg for wheat on the spot, though prices for future delivery at several points ranged higher. At Odessa prices were firm, but had given way at Pesth, in Hungary.

FLOUR.—The imports into the United Kingdom during the week closing September 18 amounted to 114,403 cwt. The following week in Mark Lane opened upon a good supply of British flour, but business was at a stand-still, and holders were disposed to recede from previous quotations. The flour movement was heavy and languid. In Mark Lane the best town households brought 43s. to 47s. per 280 pounds; best country households, 37s. to 40s.; Norfolk and Suffolk, 34s. to 36s.; American, 24s. to 29s. per barrel. At Liverpool, English and Irish superfines brought 37s. to 39s. per 280 pounds; ditto, extra, 40s. to 42s.; French, 40s. to 48s. 6d.; Trieste, 50s. to 62s.; Chilian, 36s. to 39s.; Californian, 40s. to 42s.; American, western and extra State, 25s. 6d. to 27s. 6d. per barrel; Baltimore and Philadelphia, 25s. to 30s. 6d.; Ohio and extra, 28s. to 30s. 6d.; Canadian and extra, 26s. 6d. to 31s. At Paris, the range for consumption was 35s. 11d. to 39s. 2d. per 280 pounds.

MAIZE.—British imports of maize during September were quite unimportant. No advance upon previous low prices was noted. In Mark Lane white was quoted at 80s. to 32s. per quarter, and yellow at 29s. to 31s. In Liverpool, American brought 29s. 3d. per 480 pounds for mixed; Galatz, 31s. to 36s.; Trieste, 29s. to 29s. 3d.

